FASTER, FASTER! MAKE THE 1.4GHZ UPGRADE

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Macworld

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The Mac Product Experts

SUPERGUIDE



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EXPERT TIPS
The Pros' Tricks of the Trade

OUR FAVORITES
Cameras, Ink-Jet Printers, and Online Photo Developers

iPHOTO LIBRARIES
Organize and Archive Image Files

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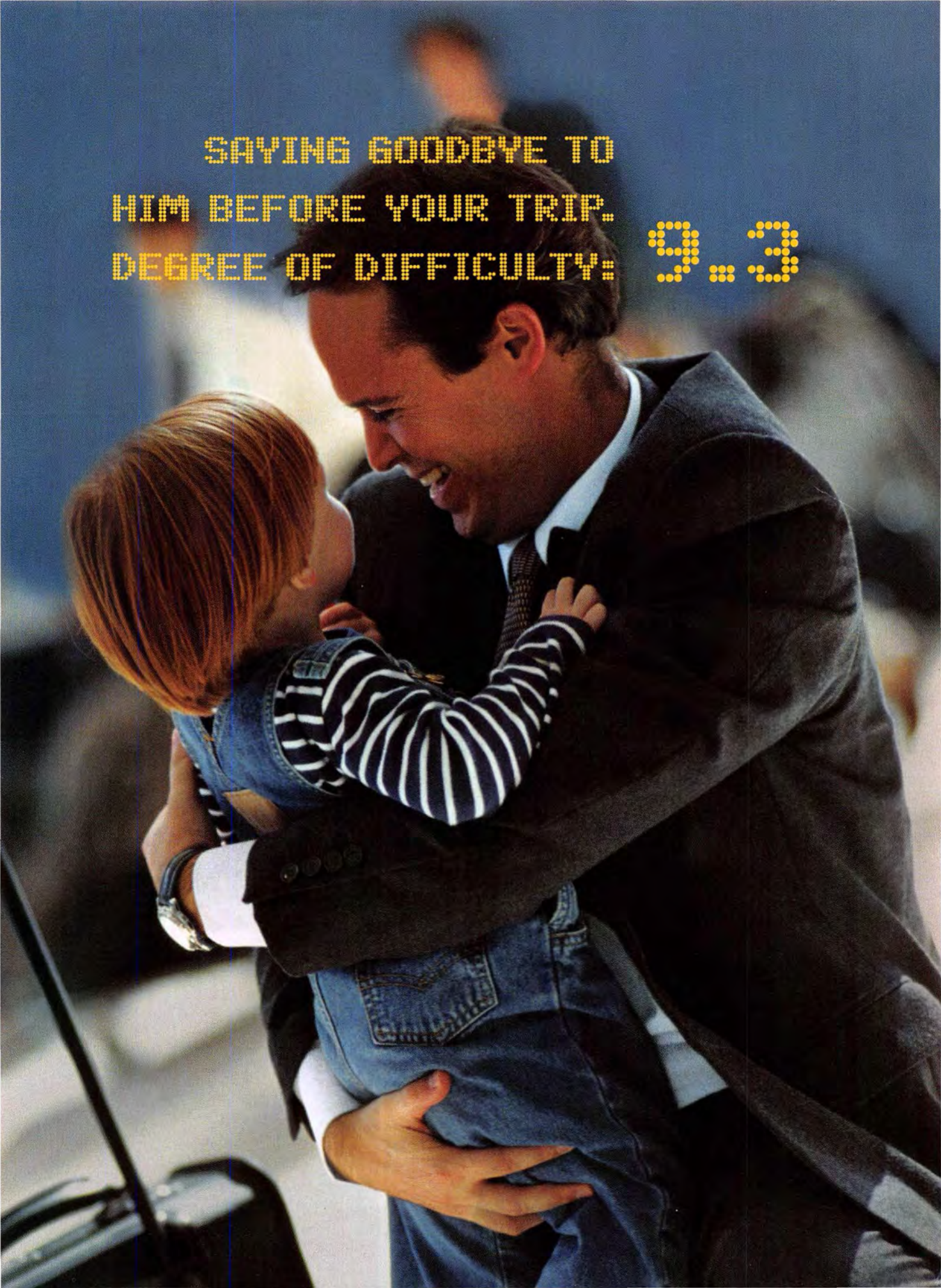
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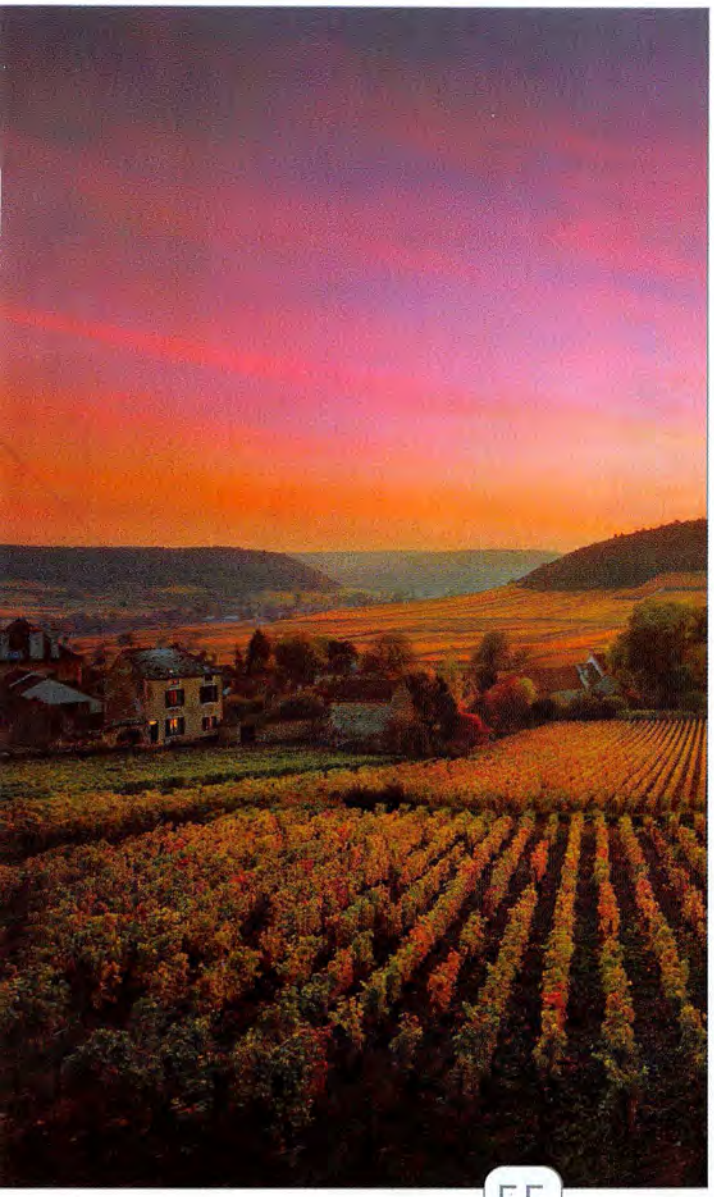
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The Filmless Present

THOSE OF US IN THE COMPUTER-MAGAZINE BUSINESS HAVE been trumpeting the coming digital-photography revolution for longer than most revolutions last. Why, on my bookshelf right now is a November 1995 copy of *MacUser* that declares, "Digital photography holds out the promise of a filmless future!" Of course, *MacUser*'s top-rated consumer camera back then was a $1,000 Kodak camera with a resolution of less than four-tenths of a megapixel, no zoom, no focus, and no white balance. (You could buy a 4-megapixel camera back then for a mere $28,000.) Needless to say, the filmless future promised in that issue was still a long way off.

But in the past couple of years, the digital revolution has quietly overtaken the strongholds of the once-dominant film—transforming today's world into a largely filmless one, especially when it comes to home use. With today's high-resolution, relatively low-cost, multiple-feature digital cameras—not to mention the extensive array of photo printers and online photo-printing services—it's easier than ever before to join the digital ranks. Almost everywhere I go, whether it's a friend's wedding or a MacMania cruise, I'm surrounded by digital cameras.

But if you're just snapping shots, importing them into iPhoto, and printing them, you're missing out on one of digital photography's greatest benefits: the ability to improve your shots before you print them. That's the focus of our cover story this month. In "Hot Shots" (page 55), a team of digital-photo experts shows you how to make weak shots better—and good shots great. For those of you who are still pondering whether to get a digital camera, or ready for a new model, we've also listed a few of our favorites, as well as our top picks in the world of photo printers.

Not everyone wants to spend time and effort on producing their own digital prints—I don't. Last year, I ordered dozens of prints from 12 online photo-printing services (see "Turn Pixels into Prints," June 2002). This month, our editorial staff—led by Kelly Lunsford and Terri Stone—repeated that process, testing 14 services. When all the prints had arrived, we threw a photo-viewing party and judged the results (see "Fit to Print?"). We hope we've saved you from tedious trial and error in your search for the best printing service.

Truly Inspirational

A few years ago, I heard a professional Web designer express her utter devotion to a peculiar little product: a flowcharting utility designed for teachers and students, featuring plenty of tools for adding stars, dogs, globes, and other silly images to diagrams. That was my introduction to Inspiration Software's $69 Inspiration, a fantastic program that helps kids learn visually—and allows more than a few adults to organize their ideas in unique ways. Although Inspiration Software is committed to education (the company says that Inspiration is for "students grade 6 to adult"), plenty of other types of professionals make use of the program's easy-to-use diagramming features.

All of us could stand to be better organized, and that's especially true when it comes to putting ideas together in a cohesive way, whether it's for a presentation, a speech, or a Web-site design. If you've never used Mac software to help with that process, you're missing out on a wealth of interesting tools and techniques, as our story "Tame Your Brain" (page 70) reveals. Tools such as Inspiration are visual wonders, but if you prefer to go the traditional route, there are also several interesting outline-generating programs out there, including The Omni Group's OmniOutliner. You owe it to yourself—and your creativity—to check out these tools and see whether they can help you improve the work you do. □

> High-resolution, low-cost cameras make it easy to go digital.



Fit to Print? *Macworld* editors (from left to right: Terri Stone, Kelly Lunsford, and Sue Voelkel) judge photographs from online services, for our digital-photography superguide.

Have you made the move to digital photography? Got a favorite method for organizing your thoughts? Send comments on these or any other Mac topics to jason_snell@macworld.com, or stop by our online forums, at www.macworld.com.

PORTRAIT BY SVEN WIEDERHOLT; "FIT TO PRINT?" PHOTO BY JENNIFER WERNER

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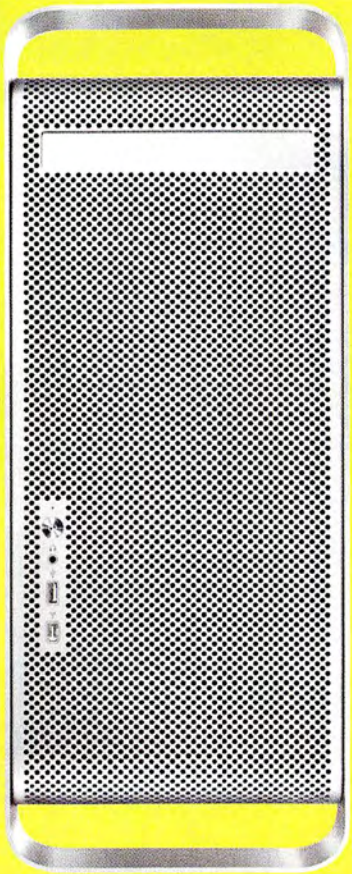
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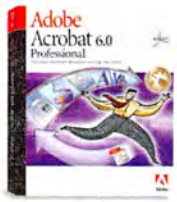


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FEEDBACK

Changing Our Tune

After our July 2003 cover story on the iTunes Music Store, we have something in common with a Top 40 FM station: our request line is open. Readers have been flooding us with suggestions on how to improve some of the online music service's false notes—everything from search features to selection. Not that we're surprised: Mac users have always marched to the beat of a different drummer. Even when they sing the praises of something—whether it's iTunes 4 or our feature on Weblogging—they want to find ways to make it even better. That certainly strikes a chord with us.

Any Requests?

MARK KIPPERMAN

Since "Behind the Music" (July 2003) made downloading music from the iTunes Music Store look so simple, I signed right up. You forgot to mention, though, that a high-speed Internet connection is almost mandatory. I downloaded a five-minute track (the allegro from "Eine Kleine Nachtmusik") over my dial-up connection. It took 20 minutes. I could have driven to Borders and bought the album in that time.

JEFF BALKE

Regarding "12 Things We Want in the iTunes Music Store," I'd like to suggest a 13th: searching by musician, songwriter, producer, and engineer. Because these individuals are often hired to work on great recordings in a similar genre, this would be a great way to find new music.

iTunes Tune-up

DUANE WILLIAMS

In his iTunes 4 review ("Behind the Music," July 2003), Jonathan Seff lists as a con that iTunes 4 has "no visible differentiation of file types in library." That is not true. Select View Options in the Edit menu, and click on Kind.

KEVIN JOHNSON

The way that iTunes accesses the CD Database to retrieve song information is great. However, the information is frequently incorrect. You have to use an awkward method of clicking and then clicking again to edit artist, song-title, or genre information. If you double-click too fast, the song plays. How about a usable tab key and down and up arrows to move through fields just as you would move through fields in a database?

Blog In, Blog On, Blog Out

AARON GARETH PEABODY

I greatly enjoyed Scot Hacker's "Put Weblogs to Work" (July 2003), but I felt that many features that set LiveJournal apart from the other blog packages were left out. No mention was made of the fact that you can create different page styles that allow pages to be imported into other sites in a variety of manners. While the article talked about multiple authors and the community aspects of a robust comment system, nothing was said about LiveJournal's Communities feature, which allows multiple users to participate in a group rather than in one person's journal. In the "Build a Better Weblog" sidebar, a very valid point was made about the public nature of most Weblog systems, but this would have been a perfect opportunity to talk about LiveJournal's highly customizable system of access and levels of privacy.

STEWART WOOD

I'm impressed—not just with the article, but also with Kung-Log's Adriaan Tijsseling. After hours of not quite getting things right, I e-mailed Adriaan; within a couple of hours, he had replied. We to-and-fro'd several more times, and finally I was able to get the blog up and running. Since then I've been blogging my heart out. But get this—I hadn't even paid into Kung-Log. Adriaan puts it out there on an honor system. Needless to say, funds are going Adriaan's way.

Rendezvous with TiVo

SANDER FEINBERG

I enjoyed "All Roads Lead to Rendezvous" (July 2003). One clarification: although TiVo Desktop Software is a free download, it will work only if you buy the TiVo Media Option, which is a $99 one-time charge. I've been using TiVo Desktop since the day it was released, and it's a terrific way to play your iTunes music on your home audio system, as well as view iPhoto images.

Real Complaints

MARK DAVIS

Andy Ihnatko's RealBasic 5.0 review (July 2003) was very good, but I would like to point out a mistake. Ihnatko writes, "Experienced programmers who are comfortable with modern BASIC will discover that they can build Cocoa or Classic applications. . . ." RealBasic does not compile Cocoa applications. Real Software chose not to have Cocoa-application compiling because it wanted to also support compiling for Windows and OS 9.

ERIC HARRIS-BRAUN

Ihnatko writes that "the most noticeable benefit of the reconstructed compiler and debugger is raw speed." What a hoot! Compile times for RealBasic 5.0 are one, if not two, orders of magnitude slower than those of version 4.5. That was the main reason for Real Software's very quick release of version 5.1—to get the compile speed down to something bearable, but it's still slower than that of 4.5. The review doesn't mention the other huge problem with 5.0: its bugginess. I'm not writing this to dis RealBasic, which is a wonderful development environment that is slowly but steadily getting to a place where it can seriously compete with professional development environments such as Metrowerks' CodeWarrior. But I'm dismayed at the factual error.

JACOB HAZELGROVE

Saying that the compiled applications are large is an understatement. I built a standard RealBasic application without modifying anything, and the build was 1.5MB, compared with a Cocoa app with 12 different interface controls compiled at 136K.

Bouncing Falls Flat

RICK LAW

Regarding reader Will Herrmann's suggestion of using Apple Mail's Bounce To Sender feature for stopping spam (*Feedback*, July 2003), that feature works only if the spammer has used a legitimate reply-to address. If not, then all you're doing is replying to a nonexistent e-mail address. More often than not, those reply-to addresses are bogus.

Editors Made Easy

MARK V. PARIS

I can't argue with Jason Snell's ♦♦♦½ rating of TextWrangler (*Reviews*, July 2003). After all, it's an opinion. But my opinion differs. I looked at several text editors, free and otherwise, before deciding on TextWrangler. I find that it's quite useful—able to open virtually any type of file, and not lacking in what I need. It doesn't do everything BBEdit does, but it costs less. Considered for what it is, rather than what it's not, TextWrangler is a fine choice.

One-Trick Wonders

KENNETH B. POVODATOR

As a longtime Spell Catcher user, I eagerly awaited the release of Spell Catcher X. There are indeed shortcomings in the program, such as the need to use International preferences to activate it. However, I find Charles Purdy's criticism that Spell Catcher lacks a grammar checker (*Reviews*, June 2003) to be looking too hard for a negative comment, rather than a valid criticism. Do-everything programs are nice when they do everything and do it well, but single-purpose programs should not lose rating points simply because they focus on an identified single purpose—if they perform as advertised and intended.

State of Stats

BARRY FASS-HOLMES

With all due respect to Charles Seiter, his ♦♦♦♦½ rating of SPSS 11 (*Reviews*, June 2003) was far too generous. This product's feature set may be broad, but it's slower to launch than any other program I've tried, and it has interface deficiencies and functionality defects. It also costs more than the competition.

ColdFusion Getting Warmer?

LARRY C. LYONS

Tony Cervo's letter bemoaning the absence of ColdFusion MX for the Mac (*Feedback*, July 2003) is simply incorrect. A developer's version of ColdFusion MX for J2EE Servers has been available for OS X since early this year.

It's true that Macromedia announced a Developer Edition of ColdFusion MX for J2EE Application Servers in January 2003. But while that release lets you develop and test ColdFusion MX applications on OS X, you still need to deploy those apps on a Unix or Windows system.—Ed.

Fax Checking

PHILIP BALL

The problem of the cutoff pages on received faxes referred to in Jeffery Battersby's review of Faxstf X Pro (July 2003) can be eliminated with a simple download from Smith Micro. A reception problem I've been experiencing with Faxstf X Pro is that the program will not receive the data from some faxes even though there is a connection. Smith Micro has told me that the problem is the result of a flaw with Apple's built-in modem; the company is also making some changes to its software.

KEN ZAKOVICH

Why have you failed to mention the most obvious of cons for Faxstf X Pro—that it cannot send data via a network to a fax and requires a painfully old telephone jack for transmissions?

Hang the DJ

JASON ROSS

Gil Kaupp's review of Native Instruments' Traktor DJ Studio 2.03 is a bit weak (June 2003). How about addressing the application's break from Mac OS interface guidelines or the file browser's clunkiness? Kaupp touches on this a bit by mentioning that the browser wasn't compatible with one of his drives, but even simple things such as scroll arrows are missing, making large lists of tracks very difficult to scroll through accurately. After reading your article, if I were looking to get into digital DJ'ing, I would seek out Traktor. Having bought and used the program myself, I have many more cautions to pass along to interested parties.

Tipped Over

ALAN BENEDICT

In the *Tip of the Month* (*Mac 911*, July 2003), we are taught how to customize our calculators to display only the results field by editing the preference file in a text editor. This seems like a hard way to achieve a simple task. Couldn't you just tell us to click on the little green button in the top left-hand corner of the calculator?

Indeed—I passed along that reader tip because I thought an abbreviated calculator would be a fine thing to have at your disposal. Had the more obvious solution not escaped me—clicking on the green button causes the Calculator to display only the results field, even after you quit and relaunch the app—I could have used the space for something a little more worthwhile.—Christopher Breen

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CORRECTIONS

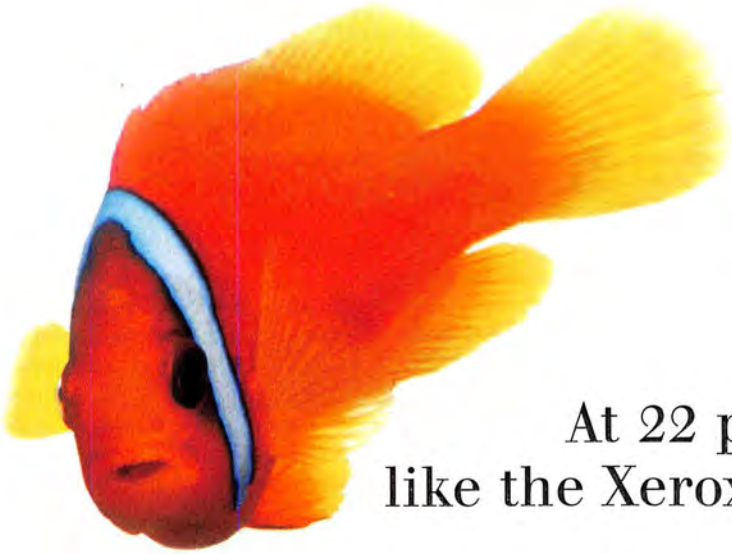
The price of RealBasic 5.0 (*Reviews*, July 2003) changed after our issue went to press. The Professional edition now costs $400.



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WEB-DESIGN TOOLS GET AN OVERHAUL FOR MACROMEDIA STUDIO MX 2004

Suite Dreams

Macromedia (800/470-7211, www.macromedia.com) isn't one to rest on its laurels. After spending 2002 bringing the bulk of its Web-design and -development programs to Mac OS X, under the new MX label, the software giant is at it again. Studio MX 2004 ($899; upgrade from Studio MX, $399) is an updated suite of OS X–only products aimed at professionals who create sites, graphics, and applications for the Web. The suite includes new versions of Dreamweaver, Flash, and Fireworks, as well as the version of FreeHand MX released earlier this year and ColdFusion MX 6.1 Developer Edition. Macromedia promises that Studio MX 2004 will sport interface enhancements and new features, and that its more tightly integrated applications will increase usability. Here's *Macworld*'s initial look at two of Studio MX's major components—Dreamweaver MX 2004 and Flash MX 2004.

Dreamweaver MX: Impress with CSS

If you had three letters in which to sum up the changes in Dreamweaver MX, those letters would be *C-S-S*—as in *Cascading Style Sheets*.

CSS is a simple markup protocol that lets designers specify the style of HTML elements. It separates the appearance of a Web page from the markup tags that specify the contents of the page. Dreamweaver MX 2004 features a design environment built around CSS. Because CSS is a browser-independent way of structuring design and content, Macromedia believes that it will allow Dreamweaver users to more easily create stable, cleanly coded sites that can be modified later with little effort.

Designing in Style

To that end, many of Dreamweaver MX 2004's design tools are aimed at helping users design and render CSS-based designs more precisely than they could with previous versions. A CSS Rule Inspector is now part of Dreamweaver's Tag Inspector; it lets you see which CSS rules apply to a given selection. You can also select tags and other block-level elements in Dreamweaver's Design view, and use the CSS Rule Inspector to modify properties. The CSS Panel has been enhanced to jump directly to style definitions within the code, so you can see where and how styles are defined. A new CSS-based Text Property Inspector lets you select CSS styles without switching modes, while new CSS-based Page Properties offer more-sophisticated control over pagewide properties such as headings and links.

Dreamweaver MX 2004 also includes a dynamic cross-browser validation feature that automatically checks tags and CSS rules for compatibility across multiple browsers. You choose the browsers to validate, and Dreamweaver finds out whether your pages use tags or CSS constructs that those browsers don't support.

Streamlined Approach

Macromedia also looked for ways to make Dreamweaver more efficient. Improved table-editing tools let you see how resizing columns will affect code

Flash: Dynamic Duo

Web developers awaiting a new version of Flash MX will have a decision to make when the updated vector-based animation and interface-design tool arrives in September. Macromedia plans to offer two versions of Flash: a standard edition and a new professional edition aimed at application developers, video pros, and workgroups.

Back to Basics

Flash MX 2004 ($499; upgrade, $199), the basic edition, retains all the tools and features of the previous Flash release while adding new capabilities that make the program more flexible and easier to use. To help speed up redundant tasks, Flash MX 2004 includes templates for common projects such as interactive presentations, photo slide shows, and video presentations. A new Timeline Effects feature lets you quickly apply timeline interactions such as Transform, Copy To Grid, Distribute Duplicate, Blur, Drop Shadow, and Explode without having to manually manipulate the keyframes. And you can use the new History panel to track all your actions and then selectively record groups of actions for later reuse.

Taking a page from Dreamweaver's book, Flash MX 2004 now includes Behaviors—precooked, customizable scripts that can automate useful actions, such as adding event handlers and controlling video and sound. A few Behaviors will ship with the software; you'll be able to download others from the Macromedia Exchange Web site.

Other useful additions in the Flash update include Cascading Style Sheets support, direct support for importing PDF and Adobe Illustrator 10 files, and a full-featured spelling checker.

For developers, Flash MX 2004 offers an updated scripting language, ActionScript 2.0, which supports object-oriented programming and is more standards-compliant—a change that should make it more accessible to experienced Java programmers.

Going Pro

In addition to all the features in the standard version, Flash MX Professional 2004 ($699; upgrade, $299) includes several new tools for experienced programmers. One of the biggest additions, a new forms-based authoring environment, helps you easily design and program complex Web applications in which the user navigates from one form to another.



Repeat After Me Flash MX 2004's new Timeline Effects feature, which includes actions such as Transform, lets you quickly execute repetitive tasks.

Flash MX Professional 2004 also introduces several new components that make it easier to connect to servers and retrieve data for dynamically generated content. Connector and Resolver components help monitor database changes; they ensure that updates are sent across the Web to the client efficiently, and that only changed records are updated.

Developers creating content for devices such as PDAs and cell phones can take advantage of Flash's built-in device emulators (which can identify potential compatibility issues and other problems), its tools for incorporating MIDI ring tones, and its library of design templates for common devices.

Video professionals can use the QuickTime-to-FLV plug-in to export video directly from Avid Xpress, Apple's Final Cut Pro, and similar programs. The software includes an improved video encoder and video-specific components that reduce the amount of scripting required. You can also take advantage of the new Flash Player 7 for enhanced playback, progressive downloads, and support for FLV files, Flash's native video format.—KELLY LUNSFORD

structure. An updated insert bar takes up less space, giving you more workspace; it also has a customizable Favorites area. And a streamlined file-editing process speeds up file downloads and replacements. Macromedia enhanced the find-and-replace feature to include full keyboard navigation, more search options, and the ability to save searches. The interface has been overhauled to provide more usable workspace and to show context and focus more clearly. The updated Dreamweaver also has a new Context menu, which appears when you right-click on selected code in Code view; you can use it to convert code into comments, to indent, to outdent, to uppercase tags, and more.

As for integration with other technologies and products, Dreamweaver lets you copy and paste from Microsoft Word and Excel documents, and it preserves fonts, colors, and CSS styles. Dreamweaver MX 2004 also features full Unicode support, as well as Secure FTP support for fully encrypting all file transfers. And of course, there's Dreamweaver's integration with other Macromedia products, whether it's consistent interface elements across applications, Macromedia Flash Elements support, or an integrated image-editing toolbar that uses built-in Fireworks technology to let you crop, resize, and make other minor edits without having to exit Dreamweaver.

(Speaking of Fireworks, Macromedia has also updated its Web-graphics software. Fireworks MX 2004 boasts significant performance enhancements and a more intuitive user interface. New drawing tools introduced in this update include Smart Shapes, Replace Color, Red Eye Removal, and Motion Blur Live Effects. Fireworks also takes advantage of OS X's Quartz graphics technology for improved text antialiasing. The update sells for $299; existing users can upgrade for $149.)

Dreamweaver MX 2004 is shipping as part of Macromedia Studio MX 2004 in September. It's also available as a standalone application ($399; existing users can upgrade for $199).—PHILIP MICHAELS

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FONT-SOFTWARE MAKERS REACT TO PANTHER'S BUILT-IN PROGRAM

A Font-Management Free-for-All?

When Apple unleashes Panther later this year, the OS X 10.3 update will introduce a built-in font-management application called Font Book. If the addition of font-management capabilities to OS X surprises you, you're not alone.



New Font Face Apple's Font Book has taken font-management programmers by surprise.

"We were completely taken off-guard," says Mike Wong, product manager for Extensis Suitcase, which competes in a crowded field that includes DiamondSoft's Font Reserve, Insider Software's FontAgent, and Alsoft's newly OS X–compatible MasterJuggler. With each of these apps boasting its own devoted following, none of the developers are looking to surrender any ground to Apple just yet.

"From what I can see on Apple's Web site, Font Book doesn't look to do a whole lot of what other font managers do, other than turn fonts on and turn them off," Wong says. "So in the professional space, we're not too concerned."

Font Book Facts

Font Book lives in the Applications folder; double-clicking on a font or font group on your hard drive will give you a preview window with a sample of the fonts' glyphs. The Install button moves the fonts to the appropriate fonts folder in your user folder's Library folder.

"One of the feature areas where we're not investing currently is the notion of activation," says OS X product manager Ken Bereskin. Rather than use the terms *activate* and *deactivate*, Font Book will *enable* and *disable* your fonts. Autoactivation is a key feature for professional font-management programs; Font Book's font-enabling procedure has been likened to a show-or-hide function, as opposed to actual activation. If you quit Font Book, all the fonts you've enabled remain that way until you launch the program again to disable them. That puts limits on certain key aspects of other font utilities, particularly autoactivation. As Font Book currently works (which could change between now and Panther's release), when an application calls for a disabled font, a user must manually enable it.

The More the Merrier?

Even with a free font-management program built into OS X, third-party developers still believe there's a need for their products. Clifford Kaplan, DiamondSoft's director of sales for Font Reserve, contends that server-based management remains the bailiwick of programs such as Suitcase and Font Reserve.

"The area where third parties continue to play a very vital and important role is when you are providing fonts to multiple users in a workgroup setting," Apple's Bereskin concedes. But he adds, "There are many professionals that will be completely satisfied with what Font Book provides."

And developers don't necessarily see Font Book's arrival as a threat. "The more people understand about fonts, the better it becomes for us," says Insider Software's Bob Leeds.—ANDREW SHALAT

Competitors Now Complements

Font Book's impending arrival isn't the only recent shake-up in the font world. Thanks to a merger, two longtime competitors in the font-management field will be joining forces—and product lines.

Extensis—which was bought a year ago by Japan's Celartem Technology—announced in June that it was purchasing DiamondSoft. For the near future, Extensis plans to continue selling Suitcase and Font Reserve as separate products. However, representatives of both companies have hinted at a single, unified product down the road.—ANDREW SHALAT



MULTIMEDIA BEAT

Hardware

Audio

A high-end multimedia loudspeaker system from Xhifi (267/288-0199, www.xhifi.com): The **Xducer 2.1** ($795) is a wood-and-metal speaker set comprising two tall, slim satellite speakers with a frequency response up to 50kHz, and a cabinet with a 50-watt subwoofer amplifier and a 50-watt digital amplifier.

Software

Audio

Soundtrack, from Apple (800/692-7753, www.apple.com): This loop-based music-composition program is a stand-alone version of the tool included with Final Cut Pro 4. It lets you create royalty-free soundtracks for video, DVD, and Web projects. Soundtrack includes more than 4,000 instrument loop and sound effects, and it lets you import files in popular formats ($299).

ReMIDI 1.0, from Granted Software (www.grantedsw.com): This OS X–only program enhances MIDI keyboards by changing notes into chords and chords into arpeggios or strums. A Chord Assistant includes 27 chords that can be triggered with one-finger chords or easy chords. ReMIDI includes two Performance Assistants, the Arpeggiator and the Strummer ($15).

Absynth 2.0, from Native Instruments (866/556-6487, www.native-instruments.com): This synthesizer is now also a sampler, includes more than 800 musical presets, and has a revised DSP core ($299; update, $69).

TL MasterMeter, from Trillium Lane Labs (www.tllabs.com): This oversampling peak meter for DigiDesign's Pro Tools lets you spot potential distortion problems prior to burning CDs. It works only in OS X and requires Pro Tools Mix/HD 6.0 or later ($199).

Video

FrameForge 3D Studio, Innoventive Software (877/322-7733, www.frameforge3d.com): This 3-D storyboarding software for directors, filmmakers, and visual artists uses a virtual film set, with views from and control of individual cameras. Shots can be saved as slide shows, graphics, HTML pages, or Flash animations. The Mac version, for OS 9.1 and OS X, will ship by year's end ($349).

PFTrack 1.1, from The Pixel Farm (www.thepixelfarm.co.uk): This 3-D camera match-moving application update enhances the program's calibration algorithms, improves matte-tool functionality, and adds distortion-correction features, as well as file export to Shake and other applications ($5,000; upgrade, free).

Zoom & Pan 3.0, from Virtix (www.virtix.com): This updated iMovie plug-in lets you zoom, pan, and rotate both video and high-resolution still images. It now works in iMovie 2 and 3, and it supports both OS 9 and X ($35; upgrade, free).—COMPILED BY JONATHAN SEFF

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STORAGE BEAT



Hardware

Hard Drives

A dual USB 2.0/FireWire 800 desktop hard drive from FirewireDirect.com (512/302-0012, www.firewiredirect.com): The **StingRay 800** comes in 80GB ($235), 120GB ($255), 160GB ($315), 200GB ($365), and 250GB ($475) capacities, and it comes with a 7,200-rpm mechanism. A 320GB ($540) drive that operates at 5,400 rpm is also available.

Optical Drives

DVD-burning external drives from EZQuest (888/898-8380, www.ezq.com): The **Boa FireWire** and **USB 2.0 4x DVD+RW/DVD-RW** drives (both $299) are compatible with DVD+RW, DVD-RW, and all CD media.

Optical-drive upgrades from Other World Computing (800/275-4576, www.macsales.com): The **OWC SuperDrive** ($380) reads CD-ROMs at 24×, writes CD-Rs at 16×, writes and rewrites CD-RWs at 4×, reads DVD-ROM at 8×, writes DVD-Rs at 1×, and writes and rewrites DVD-RWs at 1×. The **OWC Mercury Combo Drive** ($200) features 24× CD-ROM reading, 8× CD-R writing, 8× CD-RW writing and rewriting, and 8× DVD-ROM reading. Both drives are intended for Titanium PowerBooks and G4 Cubes.—COMPILED BY PHILIP MICHAELS

IMAGING BEAT



Software

Image Processing

Pheon, from Apago (www.apago.com): This image-conversion software, for OS X 10.2 and later, converts back and forth between file formats used for digital ad delivery. Features include the ability to set bleed, trim, and art boxes in PDF/X-1a and PDF/X-3; cropping; image scaling, rotation, and compression; and ICC color matching ($99).

iMagine, from Yarra Valley Software (http://yvs.eu.com): This image-processing tool for OS X lets users automate workflow for 2-D graphics and digital-image file processing through AppleScript ($50).

Plug-in

Digital GEM 1.0, from Eastman Kodak (www.asf.com): This plug-in for OS 8.6 and later, including OS X, provides automatic noise and grain reduction for images. It's designed for Adobe Photoshop and Photoshop Elements ($80).—COMPILED BY PHILIP MICHAELS

HANDHELD DEVICE DETECTS NEARBY WIRELESS NETWORKS

Finding Wi-Fi



RICK RIZNER

Someday, connecting to the Internet when you're out and about may be as easy as flicking on an FM radio, thanks to a seamless network of wireless hotspots. But these days, finding an available network remains a hit-or-miss affair. The only way to be sure a network is within range is by opening your iBook or PowerBook and scanning for available signals—unless you turn to Kensington's WiFi Finder (800/235-6708, www.kensington.com). The $30 handheld device promises to save a few steps by quickly detecting Wi-Fi—also known as 802.11—networks that are nearby.

Push the WiFi Finder's lone button and wait a few seconds. If a wireless network is present, a set of green LEDs lights up to indicate the network's signal strength. If no network is available, one LED flashes red as the device continues scanning for two minutes before powering off.

The WiFi Finder's hardware searches for signals within the 2.4GHz band, while built-in software filters the signals to detect AirPort (802.11b) and AirPort Extreme (802.11g) signals. That keeps competing signals from cordless phones, microwave ovens, and Bluetooth networks from producing false results.

Kensington says the device's batteries—two type-2032 button cells—should last about a year depending on use; if they do conk out, you can easily swap in replacement batteries. A loop on the WiFi Finder lets you attach a lanyard or connect it to your computer bag. The device also has a keychain ring, which turns the WiFi Finder into an oversized keychain, as well as a divining rod for the wireless age.—JEFF CARLSON

ETHICAL QUESTIONS ARISE OVER SURFING ON SOMEONE ELSE'S NETWORK

Whose Bandwidth Is It, Anyway?

You've whipped out your WiFi Finder and discovered that a neighbor's wireless network is readily available, and you're tempted to surf on someone else's DSL line. Do you sidle onto the network unannounced, or do you keep your PowerBook asleep because you're uncomfortable with the idea of using bandwidth your neighbor pays for? For a growing number of computer users, this is no longer a hypothetical situation. As Wi-Fi devices, online Wi-Fi hotspot directories, and warchalking—the practice of marking the location of wireless computer networks—become more common, so have debates about the ethics of borrowing bandwidth.

For programmer Aaron Swartz, who maintains the FAQ list at www.warchalking.org, there's not much of a dilemma. "I don't think using an open access point is taking advantage of the owner," Swartz says. "I'm using their access point because I believe they won't mind and perhaps even encourage it."

But how do you know whether an owner minds? The most obvious option for owners who do mind is to close their networks to outside access—assuming, of course, that they know enough about networks to be able to do so. Not all open-network providers are aware that they're supplying a public resource, says Scott Rafer, chairman of WiFinder (www.wifinder.com), which provides a directory of public wireless hotspots. And that lack of notification—or of an easy way for would-be warchalkers to ask whether they can use a network—is a growing problem in Wi-Fi networking, he adds. "Ethically, you shouldn't do it," Rafer says. "But practically speaking, it's file-sharing big."

Rafer thinks it's up to the companies providing wireless services to educate consumers: "The companies need to learn how to handle that problem at the level of their subscribers." Swartz doesn't think there's a problem at all; he says that warchalking is merely a new form of being neighborly. "New technology shouldn't make us lose our common sense," Swartz says.—LISA SCHMEISER

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Macworld CreativePro

BEST OF SHOW

Editors of *Macworld* and MacCentral.com selected the top products that debuted at July's Macworld CreativePro Conference & Expo in New York:

> **MasterJuggler 3** and **DiskWarrior 3**, from Alsoft (800/257-6381, www.alsoft.com): Font-management app MasterJuggler goes OS X native ($90; upgrade, $50). The DiskWarrior update adds speed improvements ($80; upgrade, $40).

> **MEC Station**, from Avias (www.iavias.com): This handheld device plays back MPEG files, DivX movies, and MP3 and WMA audio ($549).

> **The Print Shop**, from Broderbund (800/395-0277, www.broderbund.com) and Software MacKiev (www.mackiev.com): This software helps you create greeting cards, CD labels, and other projects ($50).

> **Dialogue**, from Dalim Software (www.dalim.com): This Internet-based soft-proofing tool is based on XML and Java2. (Contact Dalim for pricing.)

> **Perfection 3170 Photo**, from Epson (800/463-7766, www.epson.com): This scanner sports a 3,200-dpi optical resolution ($200).

> **Slick Volumes 5** and **6** and **Sweet Multiport**, from GeeThree.com (650/328-2359, www.geethree.com): The two latest Slick collections of iMovie plug-ins correct color video, highlight moving objects, and add new titles (Volume 5, $50; Volume 6, $70). Sweet Multiport converts the lower optical-drive bay on a Power Mac G4 into an interface with two FireWire 400 ports, USB, CompactFlash/MicroDrive, Memory Stick, and SD Card connectivity ($150).

> **RadioShark**, from Griffin Technology (615/399-7000, www.griffintechnology.com): This fin-shaped apparatus lets Mac users tune in AM/FM radio transmissions and record broadcasts for later playback ($50).

> **JBL Encounter 5.1**, from Harman Multimedia (877/266-6202, www.harman-multimedia.com): This surround speaker system, available in November, comes with five satellites and a subwoofer ($400).

> **HP Deskjet 5650**, from Hewlett-Packard (800/752-0900, www.hp.com): This color ink-jet printer prints as many as 21 black-and-white and 15 color pages per minute ($150).

> **C200 MFX and R200 MFX**, from PowerFile (866/838-3669, www.powerfile.com): These optical storage libraries sport a 200-disc capacity (C200 MFX, $2,799; R200 MFX, $4,799).

> **DeltaGraph 5**, from Red Rock Software (801/322-4322, www.redrocksw.com): This OS X–compatible technical graphing software lets users develop a range of 2-D and 3-D graphs ($299; upgrade, $199).

> **Disclabel 1.0**, from SmileOnMyMac (www.disclabel.com): Disclabel 1.0 makes CD and DVD labels.—COMPILED BY PHILIP MICHAELS

ENCLOSURES OFFER NETWORKING EQUIPMENT PROTECTION FROM A RAINY DAY

Outdoor Networks: Gimme Shelter

Many wireless networkers already bypass telephone and cable connections, opting to span the air with long-distance wireless links that connect homes, offices, and neighborhoods as far as 30 miles apart. All you need is a fair amount of technical know-how, some moxie, and enough patience to set up a network by trial and error.

But a few new products make it much easier to build links that extend networking beyond the inside of your home. In addition to an outdoor antenna, you'll need a base station or wireless gateway that can stay outside, to prevent the rapid signal-strength loss that occurs in longer cables that connect wireless base stations to their antennas. And that equipment needs to be protected.



D-Link's AirPremier outdoor wireless access point

MacWireless.com (510/848-7126, www.macwireless.com) sells a $100 AirPort Base Station enclosure, as well as a $90 Power-over-Ethernet kit for AirPort Extreme networks. (Power over Ethernet uses low-voltage DC power from Ethernet cables; it's favored by many network designers because of the difficulty, expense, and danger of bringing 110-volt power to the great outdoors.) And a $30 lightning protector from HyperLink Technologies (561/995-2256, www.hyperlinktech.com) is an excellent addition to any outdoor network. HyperLink also offers advanced enclosures and Power-over-Ethernet systems that cost slightly more overall but have better options for keeping the unit from overheating or freezing.

D-Link (800/326-1688, www.dlink.com) has tried to take some of the pain out of spanning wireless distances by building a full standard setup that includes either the DWL-1700 AirPremier outdoor wireless access point or the DWL-1750 AirPremier outdoor wireless bridge, along with an enclosure, Power over Ethernet, lightning protection, and full technical support. The only wrinkle: a $1,199 suggested retail price, not including antennas. Consider it an option if time is in short supply, and if moxie can't replace a setup that works the first time out.—GLENN FLEISHMAN

ISP ENCOURAGES SUBSCRIBERS TO SHARE WIRELESS CONNECTIONS

Wireless Networking's Fair Share

Maybe it's the ease of setting up an AirPort network, but something about wireless networking brings out a person's generous side. You want to share your Internet connection with others, whether it's your next-door neighbor or anyone who happens to be sitting in the park across the street from your house.

But while *you* may feel the giving spirit, sharing Internet access with your friends and neighbors may cause your Internet service provider to give you the boot. Most ISPs have policies aimed at preventing you from sharing a connection with people outside your home. Of course, ISPs worry that they'll lose customers if people are sharing connections—for example, if a half-dozen homes in a neighborhood share a single line instead of subscribing individually.

But at least one ISP doesn't mind if its users share and share alike. In fact, Seattle's Speakeasy Networks (800/556-5829, www.speakeasy.net)—which offers national DSL and T-1 service, as well as dial-up—actively encourages people to share its networks. Users can not only share with their neighbors and passers-by, but also become their own ISPs, charging other users a fee that Speakeasy collects and returns half of. The subscriber acts as a local administrator, providing support for the network; Speakeasy provides e-mail and handles technical support.

If Speakeasy isn't your ISP, check with your provider to see whether it's all right to share your wireless network. And if you are a Speakeasy customer, I can think of a few nearby parks that could stand to have an AirPort antenna extender pointed their way.—GLENN FLEISHMAN

Industrial strength protection for industrial strength Mac users



Apple Xserve RAID



Apple Xserve



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TOAST UPDATE ADDS DVD-CREATION FEATURES, RENDEZVOUS SUPPORT

Burning Sensation

When it comes to CD and DVD burning, Roxio's Toast (866/280-7694, www.roxio.com) is the reigning champ. And the venerable disc-burning application figures to tighten its hold on that title: Toast 6 Titanium, which runs on OS X 10.2 and later, will be available in September, for $100 (a mail-in rebate is available for registered Toast 5 users).



I DVD, Too Toast 6 lets users with external DVD burners create video and photo DVDs.

Topping the list of new features in this update is the ability to create video and photo DVDs that include simple menus and buttons. This is a welcome addition for people who own external DVD burners, which aren't supported by Apple's iDVD app (but this feature won't give you the same level of sophistication as iDVD's themes). The updated program can even create discs directly from your DV tapes.

But if your Mac doesn't have a DVD burner—or any burner at all—version 6's ToastAnywhere feature lets you take advantage of Apple's zero-configuration Rendezvous networking technology, so you can burn to another Mac running Toast 6 on your network.

Toast can now compress files and folders as you burn them to disc; you can also choose password-protected 128-bit encryption. And Propaganda Productions' Déjà Vu backup software is included, for Toast-integrated data backups.

Other additions in version 6 include an improved user interface; the ability to work with any QuickTime-supported audio and video formats; an updated version of CD Spin Doctor, for digitizing and editing analog tapes and LPs; and the Motion Pictures feature, for creating photo slide shows that include panning and zooming, crossfades, and soundtracks.—JONATHAN SEFF

WINDOWS MULTIMEDIA-AUTHORING APP COMES TO THE MAC

Director Competition

For Mac users, there's little debate about where to turn for multimedia authoring—Macromedia's Director, which arrived on OS X last December. But a newcomer to the Mac platform hopes to change that, with an OS X–compatible authoring tool of its own that costs a little less than the $1,199 Director MX.

Anark Studio 2, from Anark (866/705-1010, www.anark.com), was a Windows-only application; now Anark is releasing a Mac version that costs $995 and runs on OS X 10.2 and later.

Anark Studio lets pro users combine 3-D, video, images, and audio to create interactive media. It performs advanced compositing, video mapping on 3-D objects, and OpenGL rendering. The program also offers full animation and object control via a drag-and-drop, timeline-based interface. Content can be delivered to OS X and Windows users as CD- or DVD-ROMs, 3-D screensavers, videos, or Web content.—JONATHAN SEFF

PRO FILE | Q&A WITH RUSSELL BROWN

CREATIVE PRO

Russell Brown takes design and publishing software seriously. But that doesn't mean Adobe's senior creative director takes *himself* seriously. He, after all, is an executive who attended an Adobe meeting on enterprise software dressed as *Star Trek's* Mr. Spock. ("I wanted to show them I knew something about the *Enterprise*," says Brown, pictured in costume.) But there's method to this Mac user's madness—Brown believes that having fun is an integral part of the creative process, as he explains in this interview.—TERRI STONE



GARY YOUNG

AT A GLANCE

RUSSELL BROWN Senior Creative Director, Adobe
MAC: 500MHz Power Mac G4; 800MHz Titanium PowerBook G4
SOFTWARE: Apple iMovie, Mac OS X

You're Adobe's creative director. But what do you really do?

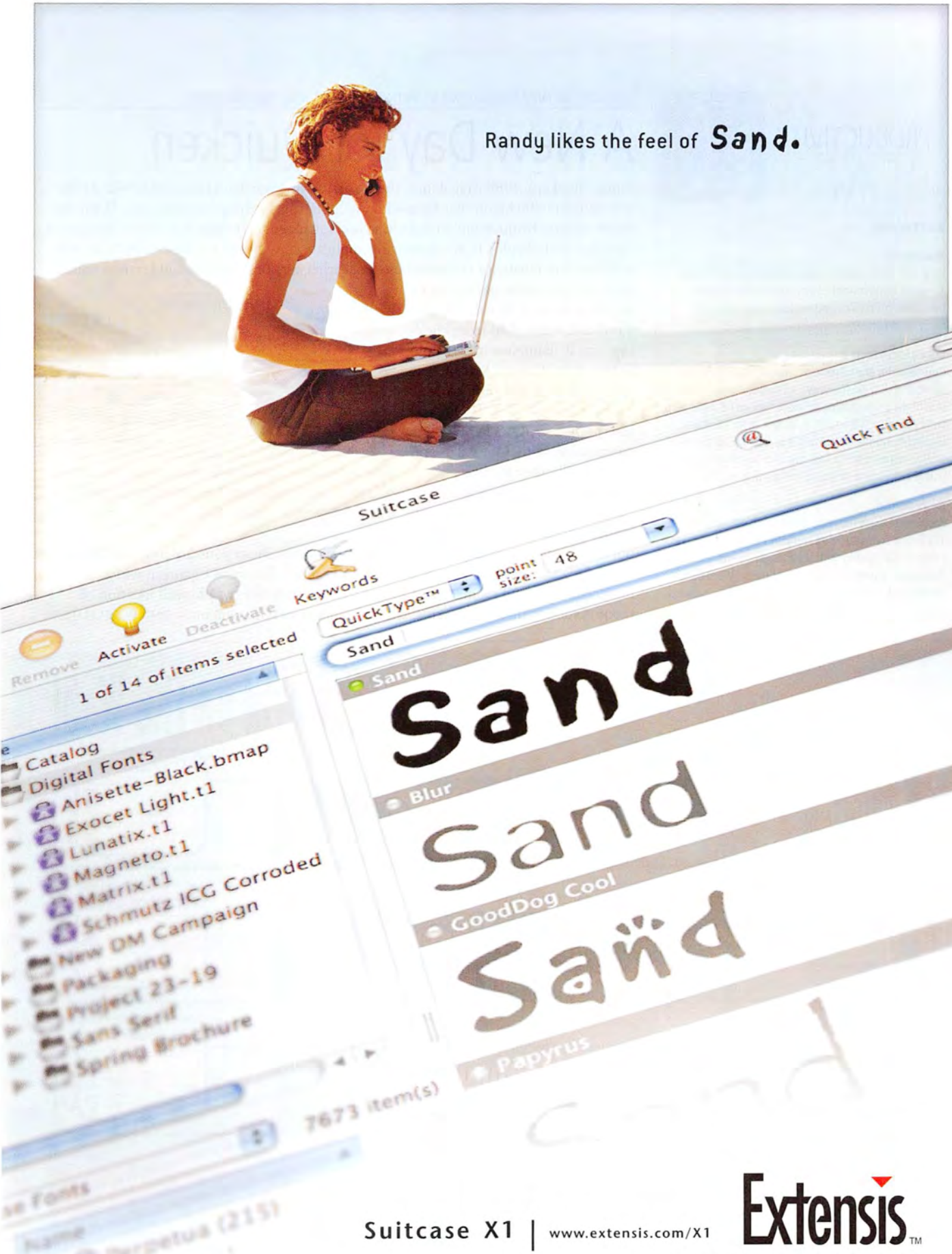
My job is to motivate graphic designers, photographers, and artists to fall in love with Adobe applications so much that they buy them. I'm the candy-store attendant: I show it off in exciting ways they can't resist. Designers tend to get so caught up in day-to-day jobs that they forget about creativity. You can't always have fun at your job, so my goal is to bring fun back into it. If you work at a computer year after year, you can get bored. You need inspiration. You need zap. I inspire people to get crazy and be creative. Creative minds learn best in a humor-filled environment. Creatives have a difficult time absorbing stale info. If you coat that info with humor, they don't realize they're being educated. I go to special events and trade shows—Macworld, PhotoshopWorld, ADIM—and give a talk.

What is ADIM?

It's the Art Director's Invitational Master class—you can read all about it at www.russellbrown.com—and I put all my energy into planning and staging it. It's a once-a-year event [held in April this year] like no other conference. I want the unexpected. I want everyone to loosen up. Watch the average designer from, oh, Kansas City. He'll say, "If Russ can be that crazy, I can be half as crazy," and he'll be the guy running around partially nude by the end of the conference.

You've been at Adobe for nearly 19 years. How has the desktop-publishing industry changed in that time?

Speed. Efficiency. Creativity. It's best described by memory—imagine yourself doing something with 16MB of RAM. Today, I've got *gigabytes*. To believe that I could have gotten something done with 16K—it seemed amazing then. There's always some new twist or new technology so amazing we're trying to figure out how we lived without it. Think of graphic designers in the late seventies working with press type. How could we possibly have done that? Today we can have every font and size and shape and color we want. Of course, there's bad design with any adoption of new tools, but good designers eventually force the bad stuff into the trash.



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PRODUCTIVITY BEAT

Software

Business

Way 1.0, from Jumsoft (www.jumsoft.com): This OS X–native business-document application includes templates for memos, letters, faxes, agendas, and other reports ($30).

Development

CodeWarrior Development Studio 9.0, from Metrowerks (800/377-5416, www.metrowerks.com): This version of the programming software runs on OS X but can build apps for OS 9 and OS X, as well as for Windows. Highlights include PowerPlant X (a C++-based framework), improved editor features, and Objective-C support ($399; license renewals, contact Metrowerks).

Reference

EndNote 7, from Thomson ISI ResearchSoft (800/722-1227, www.isiresearchsoft.com): This update lets users create a bibliography with topic headings, and it lets them insert figures or tables in a Microsoft Word document ($330; upgrade, $100).—COMPILED BY PHILIP MICHAELS

UPDATED MONEY-MANAGEMENT PROGRAM ADDS iCAL INTEGRATION

A New Day for Quicken

Since Quicken's 1988 Mac debut, the financial software from Intuit (800/952-2558, www.quicken2004.com) has focused on helping users manage their money. With this year's update, Intuit wants to help Mac users manage their time, too. It has integrated Quicken with Apple's iCal calendaring application. Quicken for Mac 2004 ($70, with a $20 mail-in rebate for registered users of earlier versions) lets users add transactions, such as upcoming payments or deposits, to an iCal calendar via a red-and-white iCal icon; clicking on it launches the Apple application. iCal integration features are available only to Mac users running OS X 10.2.6 and later; however, Quicken 2004 is compatible with OS 9.2.2 and later for all other features.



Time After Time A red-and-white iCal icon at the bottom of Quicken 2004's Scheduled Transactions window lets you create iCal calendars for your Quicken data.

These features include 25 new performance indicators—up from a dozen—for customizing portfolios, and the ability to retrieve news headlines about your holdings via Quicken .com. Quicken 2004 also introduces an Emergency Records Organizer, which stores financial, legal, and medical data in one location and lists the physical location of records such as insurance forms, wills, and other vital documents.—PHILIP MICHAELS

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MICROSOFT ADDS PRO, STUDENT VERSIONS TO OFFICE OFFERINGS

Three for All

Students and teachers are getting a back-to-school break, courtesy of Microsoft (800/642-7676, www.microsoft.com). The software giant has released an academic version of its Office productivity suite; it's priced at a third of the standard edition's cost. Microsoft Office v. X Student and Teacher Edition contains full versions of the four Office applications—Word, Excel, Entourage, and PowerPoint—for $149. Any family with a student or teacher can install it on as many as three Macs—essentially allowing that family to have three copies of Office for around $50 each, says Microsoft Macintosh Business Unit product manager Jessica Sommer.

"Different customers need different things," says Sommer, adding that the new Office offering matches an option already available to Windows users. The



Student and Teacher Edition is just one of three new Office versions. Microsoft's Office v. X Professional Edition ($499; upgrade from Office 98 or later, $329) includes Office's four apps and Virtual PC 6.1 (for Windows XP professional); it's for Mac users who work in cross-platform environments. Version 6.1 of the emulation program doesn't contain any new features; rather, the new version number reflects Microsoft's purchase of Virtual PC from Connectix (see "Emulation Sensation," Mac Beat, May 2003).

There are no new features or additional apps in Office v. X Standard Edition—which still includes Word, Excel, Entourage, and PowerPoint—but there is a new price. The Standard Edition sells for $399, a $100 drop from the old price. Office 98 and 2001 users can upgrade for $239.—PHILIP MICHAELS

WHAT'S HOT

A Quick Look at the World of Macs

1. **BuyMusic.com challenges the iTunes Music Store, but the service features inconsistent pricing and licensing limits.** *Another catch: the "songs" for sale are actually karaoke versions performed by drunken businessmen.*
2. **Michael Jackson praises Apple's iTunes Music Store.** *However, the endorsement lost a lot of its impact after the pop star dangled his iBook over the railing of a hotel balcony.*
3. **Creative professionals head to San Francisco for annual Seybold Seminars.** *Meanwhile, not-terribly-creative nonprofessionals remain in parents' basements and prepare to microwave another burrito before tuning in* Jerry Springer.
4. **The San Jose Mercury News reports that Apple's "Switch" campaign has failed to attract an influx of new users.** *To invigorate the campaign, Apple plans to stop showcasing people who have switched to Macs; instead, it will focus on particularly unattractive Windows users.*



NETWORKING BEAT

Hardware

Hubs

A seven-port hub from D-Link (949/788-0805, www.dlink.com): The **DFB-H7 QuickMedia USB 2.0/Firewire 7-Port Combo Hub** ($50) combines four USB 2.0 and three FireWire ports, allowing users to connect to multiple peripherals. The hub is powered externally and supports overcurrent detection for any plugged-in device.

Security

A portable USB-to-Ethernet VPN adapter from Linksys (800/546-5797, www.linksys.com): The **USBVPN1** adapter ($79) allows travelers and remote users to securely connect to local area networks via a broadband connection while on the road. The adapter provides a Stateful Packet Inspection firewall that protects the user from hacker attacks and supports Dynamic IP, Static IP, PPPoE, and PPTP connection methods.

Software

System Management

SysInfo 5.0, from MagniComp (866/300-3199, www.magnicomp.com): This updated application, which provides IT personnel with system information, adds OS X support and remote access ($12 to $975 per host, depending on how many CPUs are in a system).—COMPILED BY PHILIP MICHAELS

RETRACTABLE CABLES KEEP MOBILE USERS CONNECTED WITHOUT TANGLES

Retraction in Action

Having spent far too much time untangling modem, Ethernet, and other cables that have formed large knots in my laptop bag, I appreciate retractable cables aimed at mobile computer users.

It's not exactly groundbreaking technology—your grandparents may have had a vacuum cleaner with a cord that worked similarly. Just pull the cable ends until they catch—the case that holds the cable winds up dangling in the middle—and either press a button or tug at the ends to snap them back into the case, with no tangles and no tears.



RICK RIZNER

Retractable FireWire, USB, Ethernet, and modem cords from Macally (www.macally.com) come in curvy white cases that fit in your palm, match your iBook, and extend to 14 feet for the modem line ($14) and five feet for the others ($20 each). Belkin's (www.belkin.com) USB ($25), Ethernet ($25), and modem ($20) cables are only slightly bulkier and, in the case of the USB and modem cords, shorter. Kensington's (www.kensington.com) eight-foot modem ($12) and seven-foot Ethernet ($23) cables offer practical lengths and a sleek, silvery design that keeps the retracted connectors neatly tucked away. Targus's offerings won't win any beauty contests: its modem ($10 or $20), ISDN ($25), USB ($25), and FireWire ($30) cables have clunky black cases. But the retractable modem cord is a generous 20-feet long. And like Macally, Targus includes an adapter for different pin sizes with its FireWire and USB cables. Zip-Linq cables ($13 to $16), from Keyspan (www.keyspan.com), were the only ones besides Kensington's modem cable that fit comfortably in my pocket. But such portability is not without its price—modem and Ethernet cables from Keyspan are only four feet long. Still, that's four fewer feet of tangles and knots the next time I take my cables on the road.—FRITH GOWAN

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DiskWarrior 3.0

Repair Utility Does No Harm

BY STEPHAN SOMOGYI

Even a modern, memory-protected, and preemptively multitasking operating system such as Mac OS X can't prevent bad things from happening to the data on your hard drive. And when an unfortunate event occurs—such as a kernel panic that forces you to reboot your machine without shutting down properly—you want a tool that can downgrade a major disaster to a mere inconvenience. DiskWarrior 3.0, the long-awaited OS X–native version of Alsoft's disk utility, offers Jaguar users repair capabilities and maintenance features that will significantly reduce the likelihood and severity of many drive-related mishaps.

DiskWarrior never harmed any of the volumes it worked on during our testing. This clearly Hippocratic utility does only good for your hard drive's health. DiskWarrior users pondering an upgrade to 3.0 should delay no further.

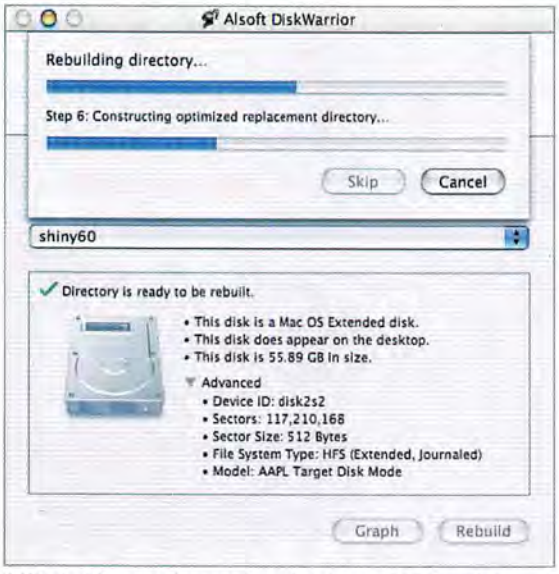
Holistic Disk Repair

DiskWarrior takes an iconoclastic approach to repairing hard drives. Rather than going through a checklist of problems and fixing them one by one (as other disk utilities, such as Norton Disk Doctor, do), DiskWarrior gathers all the available information about files and folders on the volume; it then uses that information to create a brand-new set of directory data. DiskWarrior compares the original volume to the freshly created directory and tells you if there are differences. This holistic approach has proved itself many times over in DiskWarrior's lifetime.

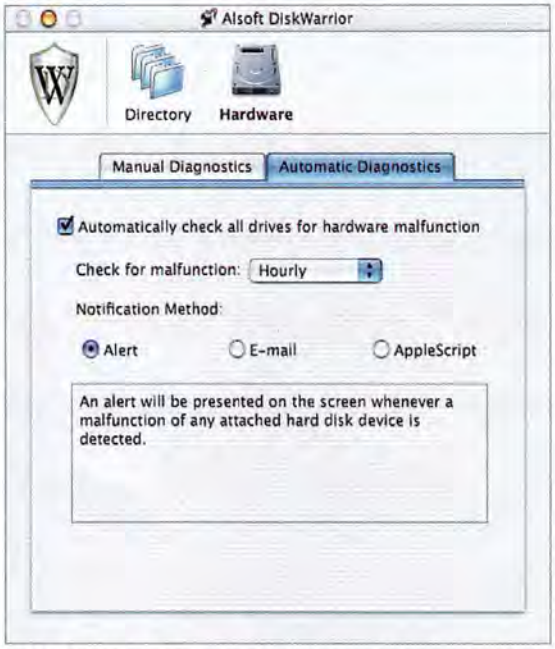
DiskWarrior's approach has one side effect worth mentioning: if you rely on software utilities to retrieve formerly deleted files, replacing a volume's directory with DiskWarrior's freshly built one will scotch that ability. When rebuilding directories, DiskWarrior also removes any remnants of information about previously deleted files.

The converse is true in one situation: sometimes, a volume's directory is so damaged that DiskWarrior has to build a new directory by piecing together a coherent whole from digital remains, so it may recover files, or their fragments, that have been previously deleted.

DiskWarrior 2.1.1, version 3.0's immediate predecessor, was compatible with OS X–formatted drives, but it didn't run natively in OS X. Even worse, because OS X volumes typically have many more folders and files—most of them invisible to the casual user—DiskWarrior 2.1.1 could be excruciatingly slow. But version 3.0 eliminates both of these hurdles. DiskWarrior 3.0 is significantly faster than its ancestor, and it supports HFS, HFS+, and journaled HFS+ volumes. DiskWarrior 2 supported journaled volumes but had the unfortunate side-effect of disabling journaling after it had finished rebuilding the directory.



A Whole-Directory Approach Rather than running through a checklist of possible problems, DiskWarrior 3.0 rebuilds a volume's directory to make sure no lingering problems remain.



SMART Planning You can configure DiskWarrior 3.0 to ask a drive whether everything's OK, and then have it alert you if all isn't well.

In our testing, DiskWarrior 3.0 readily found and fixed mild directory problems such as improperly set custom icon bits and incorrect volume bitmaps, and it even handled more-severe hardware-related problems with aplomb. One test disk developed bad sectors in the area occupied by the directory data, a fate that usually spells disaster. DiskWarrior took well over an hour to work its way through the damaged disk, but it did finish, and the newly generated directory allowed us to recover files from the drive. DiskWarrior 3.0 is leaps and bounds faster when rebuilding a directory on a drive with healthy hardware, but it also takes its time and doesn't give up when confronted with hardware errors. This is a major benefit.

SMART and Vigilant

DiskWarrior 3.0 can now query a hard drive as to whether its hardware is hale and hearty. Most mainstream—not just server-grade—IDE drives sold over the last few years support SMART (Self-Monitoring, Analysis, and Reporting Technology). SMART-savvy software can ask the drive whether everything is OK. A lot of errors can be an early warning of the impending demise of a drive's hardware. Since DiskWarrior can't fix hardware-related errors, SMART support is a welcome and useful addition. You

32 Disk-repair utility
DiskWarrior 3.0

33 Keyboard-automating software
QuicKeys X2

34 1.4GHz processor upgrades
Giga Designs G-celerator GC5B-1400-D2/A 1.4GHz, Other World Computing Mercury Extreme G4/1.4-1.467GHz, PowerLogix PowerForce G4 Series 100 1.4GHz, Sonnet Encore/ST G4/1.4GHz

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Apogee Mini-Me

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Panasonic Lumix DMC-FZ1
Sony Cyber-shot DSC-V1

can schedule DiskWarrior's SMART query to run hourly, daily, or weekly; it will run even when DiskWarrior isn't running. If anything is amiss, DiskWarrior will notify the user via an on-screen or e-mail alert, or it will launch an AppleScript to take a more-complex action such as logging an event in a database.

One missing capability that was in DiskWarrior 2 is DiskShield, an extension that ran in OS 8.1 through 9.X. It made sure directory data was written regularly. (If a crash happened while directory data was waiting in RAM, your disk wouldn't be able to access some of the data it contained.) The DiskShield extension could also detect certain kinds of directory damage and alert the user that it was time to run DiskWarrior. Although the addition of SMART support is welcome, we miss the extension's capabilities.

DiskWarrior 3.0 comes on a bootable OS X CD. Unfortunately, due to Apple's licensing restrictions, you can't distribute a fully functional bootable CD with a Finder on it. Having a Finder available allowed DiskWarrior 2 users to directly compare old and new directories. With DiskWarrior 3.0, Alsoft worked around the Finder limitations by integrating a directory browser that displays a volume's before and after states, thus letting you compare the two. While Alsoft's browser does the job, it's too bad that DiskWarrior's developers had to spend effort developing such a feature when the Finder would've been the ideal solution.

Macworld's Buying Advice

DiskWarrior 3.0 is a tool that any serious Mac user—and certainly every IT administrator—should have. Its performance is significantly better than its predecessor's, and the new SMART-based hard-drive monitoring can prevent data loss through early warning. But unlike tools that focus solely on disaster recovery or prevention, DiskWarrior is also a useful maintenance tool that can provide you with peace of mind. □

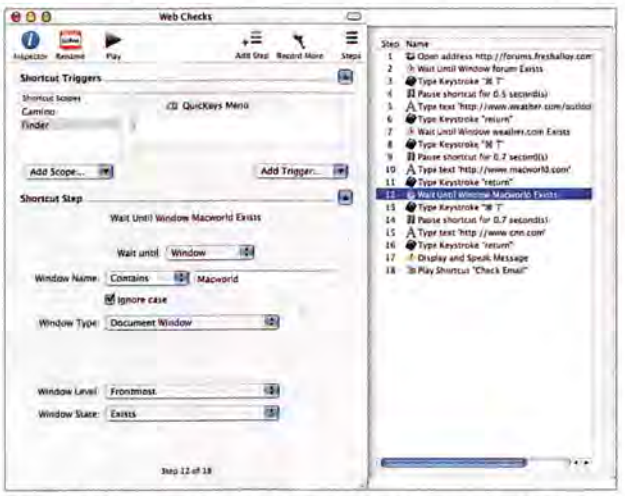
RATING: ★★★★½
PROS: Faster rebuilds; SMART support.
CONS: Missing previously available DiskShield extension capabilities.
PRICE: $80
OS COMPATIBILITY: Mac OS X
COMPANY: Alsoft, 800/257-6381, www.alsoft.com

QuicKeys X2

Powerful Utility Rewards Effort with Timesaving Macros

BY FRANKLIN N. TESSLER

Ever since the OS X–native QuicKeys X appeared almost two years ago, we've longed for the feature set of QuicKeys 5, which let us automate almost any task on a Mac running OS 8.5 or 9. The Jaguar-compatible QuicKeys X 1.5.4 update brought a few welcome improvements but fell short of the mark (★★★½; June 2003). QuicKeys X2, which also requires Jaguar, offers even more ways to control your Mac, with an interface that's more thoughtfully organized. To tap into QuicKeys' added power, though, you'll have to spend considerable time debugging and tweaking your shortcuts.



Hold Off for Now Using QuicKeys' new Wait option, we created a shortcut step that waits for a window with *Macworld* in its title before continuing.

A New Look

QuicKeys' revamped shortcut editor has a ton of enhancements that make the program more logical and less cumbersome. Instead of showing each step's actions and triggers in separate tabs (as in the previous version), QuicKeys X2 displays both in a single window. A slide-out pane on the right lists the shortcut's steps, which you can rearrange by dragging. (We thought that the dynamic resizing of the shortcut-editing window as we clicked on various steps was a bit annoying.)

To make programming shortcut triggers less confusing for novices, QuicKeys has two new user modes. In the Simple Triggers mode, you can program a shortcut to activate only when you press a specified key or key combination, or when you select the shortcut by name from the QuicKeys menu. The Advanced Triggers mode adds more choices, including the ability to launch shortcuts at certain dates and times or a specified amount of time after QuicKeys launches.

As before, you can define a shortcut's *scope*, which determines the applications it will play in. (You can assign more than one scope to a shortcut, but only in the Advanced Triggers mode.) For the first time, QuicKeys lets you prevent a shortcut from functioning in certain programs. That's helpful if you have a shortcut that checks your e-mail when you press F1 in any application, but you don't want to activate it if you accidentally hit the key while zapping aliens in your favorite game.

Also new to QuicKeys is a separate window that lets you create and edit QuicKeys toolbars—application-specific palettes that let you activate shortcuts by clicking on buttons. Other good new features include options for vertically orienting your toolbars, adjusting the size of button icons, and displaying shortcut names.

Uncertain Shortcuts

Simple shortcuts—maximizing your word processor's document window when you press F3, for example—are as easy as ever to program. To automate a complex operation, however, you have to break it down into a series of steps that QuicKeys can emulate. Although that seems straightforward, the Mac isn't always as predictable as we'd like it to be.

Say you want to create a multistep shortcut that launches Safari and logs in to an online discussion forum. If your Internet connection is slow, your browser may take several seconds to display the forum's login page. Previously, if QuicKeys couldn't find the not-yet-loaded fields, the shortcut would fail. But QuicKeys X2 offers a powerful option that forces a shortcut to wait until a specified window or button

continues on page 35

G4 Processor Upgrades

Four 1.4GHz Cards Offer a Timely Stopgap Measure



BY KRISTINA DE NIKE

Your old Mac is sitting there getting older and, if your mind isn't deceiving you, slower. Apple's Power Mac G5 has arrived on the scene, but that doesn't mean you can't get more life out of your G4. If you have a Power Mac G4 (AGP graphics and later models), you can upgrade to a 1.4GHz G4 processor. We tested Giga Designs' G-celerator GC5B-1400-D2/A, Other World Computing's Mercury Extreme G4, PowerLogix's PowerForce G4 Series 100, and Sonnet's Encore/ST G4. A $600 investment will give you a Mac almost as fast as Apple's other G4 systems, and it could keep you satisfied for another six months to a year.

Installation

Installing an upgrade card is pretty easy, as long as you read the instructions and move carefully. Giga Designs' documentation is nicely illustrated and easy to follow, as is OWC's. PowerLogix's one page is brief, but it covers the basics. Sonnet's manual is the most thorough, with installation illustrations of all compatible systems; however, it doesn't mention that the Apple System Profiler won't report the correct upgrade speed unless you install Sonnet's free Sonnet X Tune-Up software (available on the company's Web site).

To set the speed of the OWC and Giga Designs cards, you must configure jumpers, which can be tricky. If you set them incorrectly, your upgrade will either run slower than it should or become unstable. Be sure to check the processor speed with the Apple System Profiler as soon as you install the upgrade so you can shut down the computer and reset the jumpers if necessary. If you use your computer at too high a speed, the processor can overheat and damage the upgrade or motherboard.

Having control of the processor gives you the option of setting the jumpers for overclocking. All these upgrade cards use Motorola 1.4GHz G4 chips, but OWC sets its card slightly faster, at 1.467GHz. Giga Designs tests its card at 1.5GHz, and it even tells you how to set the jumpers if you want to overclock.

Slightly goosing the speed of the chip probably won't cause damage, but we don't recommend it. Overclocking causes the chip to run hotter; over time, the heat may damage your processor, hard drive, or subsystems. And you aren't likely to notice an improvement after going from 1.4GHz to 1.5GHz.

Sonnet sets bus speed for you—so you don't have to configure any annoying jumpers. But it doesn't come with a heat sink or fan. You have to remove the heat sink that was attached to your original processor and attach it to the Encore card. While reinstalling the old heat sink isn't difficult, you may have problems down the road.

The Sonnet upgrade card comes with a thin layer of a creamy heat-conducting substance. Once the upgrade is installed and running, the pad adheres to the heat sink, efficiently pulling heat off the processor and

Four 1.4GHz Upgrade Cards Compared

COMPANY	PRODUCT	MOUSE RATING	PRICE	CONTACT	SYSTEM COMPATIBILITY	PROS	CONS
Giga Designs	G-celerator GC5B-1400-D2/A 1.4GHz	♦♦♦♦	$559	510/919-1988, www.gigadesigns.com	AGP Graphics, Power Mac G4 Server, Gigabit Ethernet	Copper heat sink.	Must set jumpers.
Other World Computing	Mercury Extreme G4/1.4-1.467GHz	♦♦♦♦	$590	800/275-4576, www.macsales.com	AGP Graphics, Power Mac G4 Server, Gigabit Ethernet, Digital Audio, Quicksilver 2001, Quicksilver 2002	Efficient fan.	Must set jumpers.
PowerLogix	PowerForce G4 Series 100 1.4GHz	♦♦♦♦	$599	505/857-0353, www.powerlogix.com	AGP Graphics, Power Mac G4 Server, Gigabit Ethernet	No jumpers; powerful fan.	Difficult to fit screws into heat sink.
Sonnet	Encore/ST G4/1.4GHz	♦♦♦♦	$600	949/587-3500, www.sonnettech.com	AGP Graphics, Power Mac G4 Server, Gigabit Ethernet, Digital Audio, Quicksilver 2001, Cube (with additional kit)	No jumpers.	Difficult to move after installation.

All cards are compatible with Mac OS 9 and Mac OS X.

Macworld LAB TEST

	Speedmark 3.2	Adobe Photoshop 7.0.1	iMovie 2.1.2	iTunes 3	Quake III v1.30b5
	OVERALL SCORE	SUITE	RENDER	MP3 ENCODE	FRAME RATE
Apple Power Mac G4/500 (base)	*96*	*1:28*	*1:06*	*1:17*	*18.7*
with Encore/ST G4/1.4GHz	**153**	**0:44**	**0:33**	**0:31**	18.9
with G-celerator GC5B-1400-D2/A 1.4GHz	**154**	**0:44**	**0:33**	0:32	18.9
with Mercury Extreme G4/1.4-1.467GHz	**153**	**0:44**	**0:33**	**0:31**	18.9
with PowerForce G4 Series 100 1.4GHz	**149**	**0:44**	0:34	**0:31**	18.9
Apple eMac 1GHz	*138*	*0:57*	*0:46*	*0:47*	*53.1*
Apple Power Mac G4/1GHz (DDR)	*156*	*0:53*	*0:41*	*0:40*	***76.1***
	>Better	<Better	<Better	<Better	>Better

BEST RESULTS IN **BOLD**. REFERENCE SYSTEMS IN *ITALICS*.

Speedmark 3.2 scores are relative to those of a 700MHz eMac (with Mac OS X 10.2.1 installed and 256MB of RAM), which is assigned a score of 100. Photoshop, iMovie, and iTunes scores are in minutes: seconds. Quake scores are in frames per second. We tested each system with Mac OS X 10.2.6 installed and 256MB of RAM. We set displays to 1,024-by-768-pixel resolution and 24-bit color. We tested MP3 encoding with an audio-CD track that was 9 minutes and 25 seconds long, converting it from the hard drive using iTunes' Better Quality setting. We tested Quake III at a resolution of 1,024 by 768 pixels with graphics set to High Quality. For the Photoshop Suite tests, the desktop systems are upgraded to 512MB of RAM; this suite is a set of 10 scripted tasks using a 50MB file. Photoshop's memory was set to 100 percent and History was set to Minimum. For more information on Speedmark 3.2, visit www.macworld.com/speedmark.—MACWORLD LAB TESTING BY KRISTINA DE NIKE

dissipating it. But if you need to reinstall the original processor or decide to move the upgrade to another computer, the thermal paste pulls apart like peanut butter between two slices of bread. The documentation doesn't mention this, but you should go out and buy a tube of thermal paste if you plan on moving the processor to another system.

The PowerLogix card comes with its own heat sink and fan, and it doesn't require that you set jumpers. But you do have to take the fan off to install the card, and getting the screws in through the tall heat sink is a challenge. To provide the additional power the large fan needs, you have to plug the fan into a drive power connector. (For more information on installing a CPU upgrade, see "Make Your Mac Faster," page 76.)

How Fast Is Fast?

The four cards were nearly identical to each other in terms of speed, and they all dramatically improved the overall speed of our 500MHz Power Mac G4. The upgraded system was twice as fast as the original computer on processor-intensive tasks, such as rendering video in Apple's iMovie 2.1.2. In fact, the G4 with any of the four upgrade cards was just barely slower than a 1GHz Quicksilver Power Mac. Our original G4 still had a slower graphics card, which made Quake painfully slow. It also had a slower hard drive. (But combined with a more powerful video card, such as ATI's $150 Radeon, it should provide better results.) The upgraded test system was a better overall performer than the current (1GHz) eMac. And unless you're a hard-core gamer, these upgrades are comparable to Apple's current systems, and at around $600, they're also $200 cheaper than Apple's least expensive offering, the 1GHz eMac.

The Sonnet and OWC cards work in a wider variety of systems than the PowerLogix and Giga Designs cards; the latter two cards are only for 100MHz-bus systems. For the same price, PowerLogix sells a PowerForce G4 Series 133 1.4GHz card for Digital Audio and Quicksilver models. Giga Designs also has a $589 card for 133MHz systems.

With the $60 Sonnet Cube Dealer Installation Kit, Sonnet's card will also work in a G4 Cube. Another option for Cube owners is PowerLogix's $599 PowerForce G4 Series 100 for the Cube.

Macworld's Buying Advice

Now is a great time to consider an upgrade card if you desperately need a new system but aren't ready to place an order for a Power Mac G5. Any of these four cards will rejuvenate your older computer, but the Sonnet card is a good choice only if you're sure you won't move it after installation. On the other hand, the OWC card works in the widest variety of systems and is relatively easy to move between systems. It's the best choice for an office with a variety of computers. □

QuicKeys X2

continued from page 33

appears before continuing (see "Hold Off for Now").

You can also tell QuicKeys to pause and wait for you to press specific keys or click on a certain button before it continues with the next step. Other useful new features include options that let QuicKeys select and activate buttons or pop-up menus by name or location, display custom dialog boxes in the middle of multistep shortcuts, repeat a series of steps, and store text or graphics in a QuicKeys scrapbook.

Shortcuts often play back too fast to follow, and it can be difficult to know what went wrong when a shortcut fails or does something unexpected. So we're especially fond of QuicKeys' new debugging mode, which lets you execute shortcuts one step at a time.

With some effort on your part, QuicKeys can overcome an application's inherent limitations—for example, we used QuicKeys to automate a timed slide show in Apple's Keynote, something Keynote alone can't do.

Despite QuicKeys X2's improved shortcut repertoire, however, we were occasionally stymied in our attempts to automate some steps, such as selecting pop-up menus on some Web sites. And it wasn't always obvious which shortcut would achieve a desired result when there were several alternatives. For example, we learned by trial and error that simulated keystrokes were much more reliable than mouse clicks in one of our shortcuts, even though both options seemed equally appropriate. QuicKeys' extensively rewritten manual does a good job of explaining each individual option and some possible uses for them, but it could use more how-to examples.

We also obtained mixed results with a new feature that records a user's actions and turns them into a multistep shortcut. Some of our simpler automated shortcuts worked right away. However, many either were unusable or required extensive tweaking, especially if they involved waiting for windows or other interface elements to appear.

Macworld's Buying Advice

Although programming complicated shortcuts demands patience and experimentation, QuicKeys is excellent for replicating many of the repetitive tasks that you perform every day. If you're a QuicKeys X 1.5 user, we strongly recommend the upgrade—you'll get a greatly improved program. □

RATING: ♦♦♦♦

PROS: More shortcut options; redesigned, more intuitive interface; useful debugging mode.

CONS: Shortcuts often require extensive fine-tuning.

PRICE: $100; upgrade from QuicKeys X 1.5, $20

OS COMPATIBILITY: Mac OS X

COMPANY: CE Software, 800/523-7638, www.cesoft.com



EazyDraw

Make Drawing Fun on OS X

Introducing EazyDraw – the fun, easy-to-use Mac OS X design tool that lets you draw like a pro! Now you don't need to be a graphic artist to create great illustrations. EazyDraw's vector-based graphics and editing capabilities make it easy to create technical diagrams, flow charts, and business communications as well as commercial line art illustrations and graphic elements for application software and web design.



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(That's easy with a Z).

Mac

Built for Mac OS X

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iTools 7

Front End Simplifies Access to Open-Source Internet Services

BY MICHAEL GENRICH

Mac OS X's success proves that Mac folks love their Unix but want to keep it tastefully hidden under a handsome Aqua quilt. With the release of iTools 7, Tenon Intersystems is betting that Mac folks will also love powerful Unix Internet services such as Web and mail servers, as long as there's a little room under that quilt to hide the particulars.

A standard iTools installation includes recent versions of the Apache 2 Web server, the BIND 9 server, and the ProFTPD server; an Update Manager feature ensures that all components are current. These open-source servers have an established reputation on Unix systems. While they've always been free, they must be compiled, installed, and configured via a command-line interface. These installations can be quite difficult, and the text-based configuration files are very complex—not a pleasant prospect for Mac administrators accustomed to controlling Internet services via a graphical user interface.

By eliminating (in most cases) the need for a command line, iTools greatly simplifies the installation and maintenance of these network services. You get a simple, well-designed GUI ready to help you manage your newly installed servers. If you value—or require—an easy-to-understand tool for tackling server administration, you'll benefit from adding iTools to your workshop.

No Command Line Needed

We followed the manual's Quick Start section and entered some basic information into the service managers. In less than 30 minutes, we had an iBook serving Web pages, accepting e-mail, and handling several FTP sessions. This would've taken a lot longer if we had downloaded the servers' respective source code, compiled the software, and edited text-configuration files.

Although iTools makes server installation and administration easy, it doesn't interfere with the server's performance. iTools Manager gives you access to Apache's full range of customization and configuration options, neatly dividing related settings among separate tabbed windows. You can limit access to your Web sites, protect Web pages with a password, and enable CGI scripts through this well-organized window.

iTools' DNS manager is fantastic. Creating new domain-name information is very easy—even longtime Unix administrators will appreciate how clicking on two buttons and entering one domain name result in perfect server configuration and domain zone files. Although many sites have an Internet service provider that handles DNS service, iTools' DNS service can be useful as a secondary DNS server for local machines to use.

The FTP server software doesn't have as many settings, but the manual points to online resources that tell you how to create advanced settings by directly editing the configuration file. Most people will probably never need to modify advanced FTP server settings, so omitting them may be Tenon's way of keeping things simple.

iTools' Sendmail-management capabilities, however, are the program's weakest point. You can create mail aliases and control which computers may use your server as a mail relay, but you can't do much else. This inflexibility prevents you from easily adding useful tools, such as spam filters, virus checkers, and mailing-list software. Many of these weaknesses are addressed by Tenon's Post.Office mail package, which the company recommends for all mail needs. (Post.Office will cost you nearly $300 if you're managing more than ten e-mail accounts.)

iTools also includes the iTools Administration Server, a secure Web interface that lets you manage your iTools setup via a Web browser on any computer with an Internet connection. The Web interface is quite similar to the software's interface, and it works with no problems.

Why Pay to Run Free Software?

Apache, Sendmail, and BIND are part of a basic OS X installation package, and you can download, build, or install the other software iTools includes, without paying a cent. When you buy iTools, you're paying for ease of use, a consistent OS X user experience, and a chance to forget about the technical wizardry that makes Internet servers run.

iTools is very easy to use, but inexperienced administrators will need to learn about the services it manages before they install it. The manual thoroughly walks you through setting up each service, and it explains the essential concepts of DNS and FTP services very well. But to troubleshoot, you'll have to visit the iTools FAQ on Tenon's Web site or e-mail technical support; you get only 30 consecutive days of free technical support (extended maintenance contracts are available; they start at $99 for one year).



Master of Your Domain Setting up new domain-name information is quick and easy with iTools 7's DNS manager.

Despite iTools' solid performance, there's still a slight chance that you'll one day find yourself staring at a command line. During our testing of the Web interface, an improperly configured reverse-DNS zone caused internal server errors that couldn't be fixed with iTools. The program couldn't delete the malformed zone, so we had to manually edit the DNS configuration file (a task most Mac administrators never face), manually delete the zone files, and restart the DNS service. The iTools manual discusses these files, so intrepid and experienced users can handle such a situation themselves. However, since diagnosing and solving this problem is difficult without prior server experience, novice users should rely on Tenon's technical support, which was prompt and friendly the two times that we phoned the company.

Macworld's Buying Advice

iTools 7 takes industry-standard Internet-service software and makes it as easy to use as an OS X preference pane. iTools 7 may not appeal to advanced administrators with experience using text files to configure Unix software. But if you need a professional Internet presence without dedicated administrators, iTools 7 will save you time and effort. For iTools 7's simplicity and power, $349 is a fair price to pay. □

RATING: ♦♦♦♦

PROS: Very easy installation and management; well-designed GUI and Web interface; simplifies administration of powerful Internet servers.

CONS: Repackages and charges for services already available in OS X; manual lacks troubleshooting information; limited Sendmail settings.

PRICE: $349; educational and government institutions, $299; competitive upgrade from any other commercial Mac Web server, $299; upgrades from iTools 5 or 6, $199–$249

OS COMPATIBILITY: Mac OS X

COMPANY: Tenon Intersystems, 888/293-2836, www.tenon.com

Image-Scaling Plug-Ins

Genuine Fractals PrintPro 3.0 and pxl SmartScale Prove That You Can Get Big Results from Small Packages

BY ANDREW SHALAT

The rather inelegant adage "garbage in, garbage out" is not always true. LizardTech's Genuine Fractals PrintPro 3.0 and Extensis's new pxl SmartScale—plug-ins for Adobe Photoshop—rework this old equation. Both let you take images previously considered too small for anything other than the Web and enlarge them with enough clarity and image integrity for print output. (The plug-ins are compatible with Adobe Photoshop 6.01 and higher.) You'll get astoundingly good results—either product can scale an image to as much as, and in some cases more than, 16 times its original size. But while Genuine Fractals is powerful, its somewhat quirky workflow is less intuitive than pxl SmartScale's straightforward, get-it-done interface.

Genuine Fractals PrintPro 3.0

Genuine Fractals PrintPro 3.0's image-enhancing technology is based on LizardTech's MrSID application, which is also the basis for satellite-image enhancement and other politico-spy mumbo jumbo. Suffice it to say that you must save your documents as proprietary STN files. Then you'll choose between lossless or visual lossless encoding. Lossless encoding makes no changes to your image, leaving it untouched. Visual lossless encoding creates a file that is slightly smaller; although there is no discernible visual difference from the original, some data is removed. A good rule of thumb is to keep as much data in your image as possible. So unless you're running out of space on your hard drive, our advice is to use the lossless option.

The STN file acts as a source document for your image. Opening it in Photoshop brings up the Genuine Fractals interface, a curvilinear workspace that shows pertinent size, color-space, scaling, preview, and cropping options. The process is relatively self-explanatory.

Output quality is phenomenal. We turned a 703K image file into a 176MB one with no major visual artifacts or loss of clarity. Using either of these programs, you won't be able to take a tiny picture from the Web and blow it up to be a good-looking poster, but the quality is definitely good enough for professional flyers or newsletters.

Genuine Fractals handles CMYK and CIE-Lab color spaces, as well RGB, gray-scale, and bitmap images. The lower-end versions of the software—Genuine Fractals 3.0 LE ($50) and Genuine Fractals 3.0 ($159)—are limited to RGB and gray scale, and the LE version won't let you scale beyond 64MB. The PrintPro version can scale beyond the 1,600 percent that pxl SmartScale peaks at, but you'll need a lot of RAM to do it.

If you often need to make global changes to images, be aware that the plug-in itself doesn't actually include a batch command; instead, it relies on the batch facility found in Photoshop. You create an action that sets your rescaling parameters and invoke it from Photoshop. This strikes us more as a workaround than an inclusive feature.

Pxl SmartScale

Easy to use and understand, pxl SmartScale is good at what it does. It, too, uses proprietary algorithms to work its magic, but pxl SmartScale borrows its interface from Photoshop. This familiar environment helps speed your workflow. (Sadly, there's no batch-processing capability to expedite global changes to multiple images.) With no strange file format to deal with and a real-time preview, you enhance images on-the-fly by adjusting the following settings: Overall Sharpness, Edge Contrast, Edge Detail, and something called Extreme Edges. (Think of Extreme Edges as a pumped-up Unsharp Mask.)

Adjustments are preset, however, and we would have preferred slider controls. Still, you can experiment, and in most cases you can find an effective image quality that will sustain an exceedingly large scale. We took the same 703K we'd used earlier and again turned it into a 176MB file, and we got excellent results.

Macworld's Buying Advice

These two plug-ins prove that a small image can be surprisingly clear when it's scaled to a relatively gigantic size. Fans of Genuine Fractals will not be disappointed with the PrintPro 3.0 version, but if you're looking for an efficient and intuitive way to get great results, pxl SmartScale is for you. □

GENUINE FRACTALS PRINTPRO 3.0

RATING: ★★★★

PROS: Excellent image scaling; easy-to-understand controls.

CONS: Proprietary file format requires odd save-as and reopen procedure; batch-processing command is more of a Photoshop workaround.

PRICE: $299; upgrade prices vary

OS COMPATIBILITY: Mac OS 9, Mac OS X

COMPANY: LizardTech, 206/652-5211, www.lizardtech.com

PXL SMARTSCALE

RATING: ★★★★½

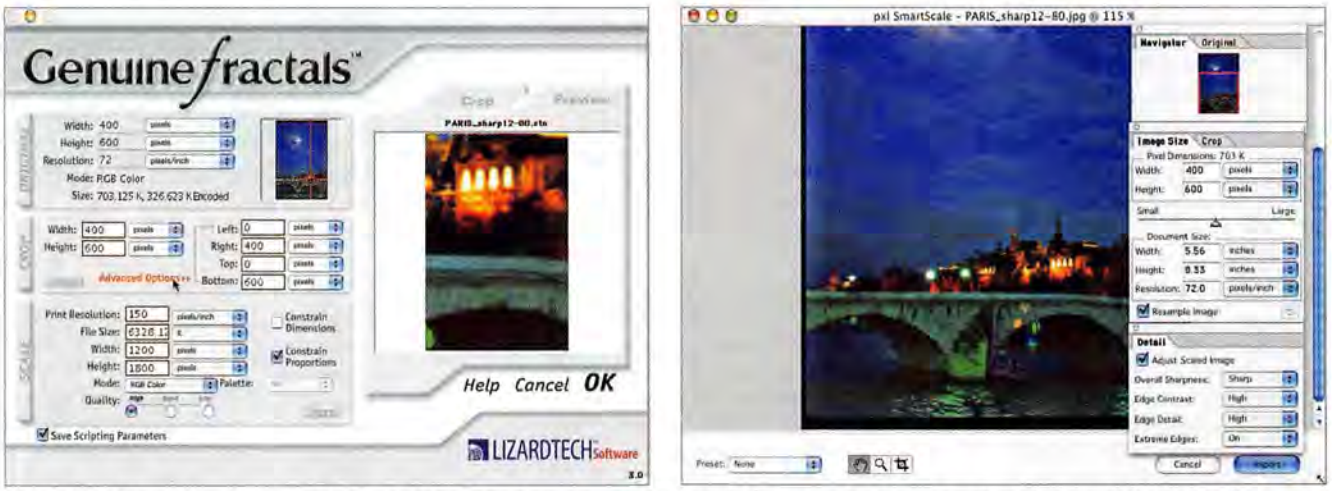
PROS: Familiar interface; excellent output.

CONS: No batch-processing capability.

PRICE: $200

OS COMPATIBILITY: Mac OS 9, Mac OS X

COMPANY: Extensis, 800/796-9798, www.extensis.com



Choose Your Flavor Genuine Fractals PrintPro 3.0 and pxl SmartScale achieve the same end, but your comfort level with each interface may be the deciding factor.

THIS MONTH IN DIGITAL CAMERAS







Model	Panasonic Lumix DMC-FZ1	Minolta Dimage Xt	Olympus C-740 Ultra Zoom	Canon PowerShot G5	Sony Cyber-shot DSC-V1
Rating	●●●½	●●●	●●●½	●●●●	●●●½
Resolution (in megapixels)[A]	2.0	3.2	3.2	5.0	5.0
Price	$449	$399	$499	$899	$699
Lens					
Zoom (35mm equiv.)	12× (35mm–420mm)	3× (37mm–111mm)	10× (38mm–380mm)	4× (35mm–140mm)	4× (34mm–136mm)
Maximum Aperture	f2.8	f2.8–f3.6	f2.8–f3.7	f2.0–f3.0	f2.8–f4.0
Media Supported	Secure Digital/MMC[B]	Secure Digital/MMC[B]	xD Picture Card	CompactFlash Type II	Memory Stick Pro
Size (in inches)[C]	midsize, 4.5 × 2.8 × 3.3	compact, 3.5 × 2.6 × 0.8	midsize, 4.2 × 2.6 × 2.7	midsize, 4.8 × 2.9 × 2.8	midsize, 4.0 × 2.6 × 2.3
Weight (in ounces)[D]	10.4	4.2	10.4	14.5	10.6 (with battery, Memory Stick)
Bundled Software	ArcSoft Camera Suite	Minolta Dimage Viewer	Olympus Camedia Master	Canon Digital Camera Solutions, ArcSoft Camera Suite, Remote Capture	Pixela ImageMixer (not OS X native)
Bundled Hardware	8MB SD card, lens hood, USB and video cables	16MB SD card, dock, USB and video cables	16MB xD card, USB and video cables	32MB CompactFlash card, remote control, USB and video cables	32MB Memory Stick, USB and video cables
Battery[E]	lithium ion	lithium ion	AA (no charger)	lithium ion	lithium ion
Additional Features	stabilized lens, electronic viewfinder	records audio clips, supports underwater case	electronic viewfinder, supports add-on lenses, saves favorite settings to mode wheel	supports add-on lenses and flashes, AF illuminator, saves favorite settings to mode wheel, manual focus-area selection	hologram AF laser focusing, night-shot feature lets you take photos in total darkness, supports add-on lenses and flashes, supports USB 2.0
Movie Mode	yes, with sound (maximum length dependent on card)	yes, with sound (maximum length dependent on card)	yes, no sound (maximum length dependent on card)	yes, with sound (3-minute maximum)	yes, with sound (maximum length dependent on card)
Image Quality	Very good; some vignetting, noise, and purple fringing.	Good; some softness and vignetting in corners; red-eye problems.	Very good; noisy; some purple fringing.	Excellent; some purple fringing; red-eye problems.	Very good; noisy; colors seem flat; red-eye problems; purple fringing.
User Interface	Very good; basic but functional.	Very good.	Very good; customizable but confusing.	Very good.	Very good; extremely easy to use.
Pros	Amazingly fast, stabilized 12× lens; good picture quality; lots of fun to use; manual white balance.	Very thin body; good photo quality; nice movie mode; fast startup.	Long zoom lens; good picture quality; full manual controls; support for add-on lenses; saves favorite settings.	Fast lens; great photo quality; full manual controls; support for add-on lenses and flashes; AF illuminator; saves favorite settings to mode wheel; long battery life.	Well-designed metal body; hot-shoe and add-on lens support; first-rate focusing system; great movie mode; full manual controls; live histogram in record mode.
Cons	Low resolution for its price; no AF illuminator; no manual controls except white balance; electronic viewfinder hard to see in low light.	Soft images not as good as those of digital cameras with a standard lens system; red-eye; no manual controls; no AF illuminator.	Images a little noisy; no image stabilization; no AF illuminator; manual only on included CD; slowest shutter speeds available only in manual mode; no sound in movie mode.	Too much purple fringing for a camera in this class; red-eye can be a problem; lens is visible through optical viewfinder at wide angle; subpar movie mode.	Noise levels higher than they should be; colors seem dull; poor battery life compared with competition; user's left hand can obscure the flash, preventing it from operating; red-eye; software not OS X native; movie mode's low frame rate means choppy video.
Contact	800/742-8086, www.panasonic.com	201/825-4000, www.minoltausa.com	800/553-4448, www.olympusamerica.com	800/652-2666, www.powershot.com	877/865-7669, www.sonystyle.com

Cameras are listed first in order of resolution and then alphabetically by vendor. [A]The camera's effective resolution, not the CCD's resolution. [B]MMC = MultiMedia Card. [C]Width × height × depth. [D]Camera only unless otherwise noted. [E]Battery charger included unless otherwise noted.

BY JEFF KELLER

In years past, digital-camera manufacturers seemed to take a summer vacation. But this year, that wasn't the case; they came out with more and more models every few weeks (or so it seemed). Here's a look at the wide range of cameras that debuted this summer.

Ultrazoom cameras are becoming increasingly popular, and that's a good thing—they're a lot of fun to use. Two of the best are from Panasonic and Olympus. The 2-megapixel Panasonic Lumix DMC-FZ1 has an incredible f2.8, stabilized 12× zoom lens. The optical image stabilization on this lens helps reduce "camera shake," which can make images blurry. The stabilizer doesn't work miracles, but it helps quite a bit. The Lumix DMC-FZ1 is a ton of fun to use, but it may be too simple for photography enthusiasts: it has no manual control for shutter speed, aperture, or focus. If you want those, you can pay a little more for either the recently released Panasonic DMC-FZ2 or the $499, 3.2-megapixel Olympus C-740 Ultra Zoom. It has a less impressive lens (10×, no stabilization) but offers full manual controls and higher resolution. Image quality is very good on both cameras, though you should expect some purple fringing along the edges of your

photos. Olympus also makes a 4-megapixel camera, the C-750 Ultra Zoom, which has a hot-shoe.

If an ultracompact camera is what you're after, the 3.2-megapixel Minolta Dimage Xt could be the camera for you. Like the DMC-FZ1, the Dimage Xt is purely point-and-shoot. It uses the same internal lens system as previous Dimage X cameras, so it has a very thin profile. Picture quality is decent, but it's not as good as that of a larger camera with a more traditional lens system. Images tend to be soft in the corners, and *vignetting*, or dark corners, may also occur. Users also need to make sure that they keep their fingers away from the lens, to avoid inadvertent inclusion. The Xt is very responsive; at about a second and a half, its startup is one of the fastest out there. It also supports an optional underwater case, the $249 Minolta Marine Case.

In the high-end market, two of this year's most eagerly anticipated cameras are the Canon PowerShot G5 and the Sony Cyber-shot DSC-V1. Both the G5 and the DSC-V1 have 5-megapixel resolutions, 4× zoom lenses, and full manual controls. But both were a bit of a letdown, for different reasons. While the G5 has the same set of manual controls, fast zoom lens, reliable performance, and multitude of accessories as its predecessor, the PowerShot G3 (♦♦♦♦½; January 2003), I was a little disappointed with the amount of purple fringing in many of my test photos. It was definitely worse than in the G3's photos, which is a shame, considering this camera's price. Aside from that, though, the photo quality is excellent. I like the ability to save your favorite settings to a spot on the mode wheel, and the ability to use the LCD to manually select the area in the frame to focus on. Another nice feature is Canon's included Remote Capture software, which lets you control the camera via a USB connection. The PowerShot G5's movie mode would've been well received a year ago, but the resolution and recording time are not as good as those of other cameras' movie modes.

The Cyber-shot DSC-V1 also didn't live up to its hype. Its photos have more noise and duller colors than photos taken with the PowerShot G5. Its purple fringing isn't as bad as the G5's, however. The DSC-V1's battery life was also disappointing, especially compared to that of other full-featured cameras in this class (it's about one-fourth the life of the G5's battery). The good news is that the DSC-V1 has a nicely designed body (except for poor flash placement), full manual controls, a hot-shoe, and a top-notch laser focusing system. With its VGA resolution, the camera's movie mode is excellent, though the slow, 16-fps frame rate leads to choppy videos. If Sony improved the photo quality and battery life a bit, the DSC-V1 would be at the top of its class. You can find the DSC-V1's features in a more capable (albeit larger) camera—the DSC-F717. □

JEFF KELLER is the editor of the Digital Camera Resource Page (www.dcresource.com), which includes reviews and ratings of more than 470 digital cameras, and dvspot (www.dvspot.com), a consumer-oriented DV-camcorder site. Send feedback about this column to reviews@macworld.com.

Apogee Mini-Me

Analog-to-Digital Converter Performs Well—for a Price

BY DAVID LEISHMAN



RICK RIZNER

No matter how great a song you've written, you need a high-quality analog-to-digital converter to get the richest-sounding tracks into your Mac. And if you need to record in rehearsal, concert, or outdoor settings, you'll also want a unit that's portable and rugged.

Apogee is renowned among audio professionals for making excellent analog-to-digital converters that work well in both studio and mobile recording environments. Its latest offering, the Mini-Me converter, sustains the company's reputation quite nicely. However, the Mini-Me doesn't fully support Mac OS X yet, and its high-quality sound comes at a serious price.

What You See

The Mini-Me is small (10.5 by 5.5 by 1 inches) and light (about 2 pounds), but it packs in many analog inputs and digital outputs. Its combination ¼-inch TRS/XLR input jacks accept microphone, instrument, and line-level signals. The unit has clean-sounding preamplifiers and phantom power for microphones. The Mini-Me supports third-party battery packs and ships with a power supply.

Each of the Mini-Me's digital outputs—AES/EBU, S/PDIF, and USB—offers two channels and a wide range of bit and sample rates—up to 24-bit and 96kHz (USB support tops out at 24-bit and 48kHz), and you can use all three outputs simultaneously. Front-panel controls include a knob for choosing the ratio of live to recorded signal you hear as you overdub tracks, mike-gain and line-input controls, a converted signal-strength monitor, and a bit- and sample-rate selector. The only difficulty we had with the front panel was with trying to adjust the tiny, recessed controls of the line inputs.

What You Hear

Parameter control is important, but great sound is paramount. A miked electric-guitar amp sounded fine, but the Mini-Me really shone with acoustic guitars and vocals; when we listened to the playback, the sense of being at a live performance was quite realistic.

The unit has three levels of compression to tame incoming signals that are near the point of clipping; we tested each level on a wailing acoustic track recorded about 6 inches from the microphone, and then we listened to the results. The low-level and midlevel compression produced files that retained most of the original sound characteristics. But the heaviest compression made the upper frequencies of the recording sound as if they were being pushed down by an unseen hand. Still, that was highly preferable to the garish sound of clipping, and in a "plug and play, and hope for the best" live recording session, it proved to be a lifesaver.

Slightly Off-Key

We successfully tested the Mini-Me in OS 9.2.2 with USB transfers to Emagic's Logic Platinum and MOTU's Digital Performer 3, and S/PDIF transfers to Digidesign's Pro Tools LE.

Logic Platinum handled recording and playback in OS X, but Digital Performer 4 and Steinberg's Cubase SX did not. Apogee is working on a driver that will enable full input and output capabilities (it should be available by the time you read this). There's one other USB-related hitch: the Mini-Me requires a computer-based port, which means you'll have to unplug your MIDI interface—a pain if you need to convert MIDI tracks to audio, or if you need to record with MIDI accompaniment.

On the bright side, the Mini-Me's USB port is located on a removable interior daughtercard, which Apogee says can be switched out for a FireWire-based card in the future. This is good to know—because Mini-Me costs $1,495, professionals and discerning home users will want to work with it for years to come. Fledgling digital recordists will probably be better served by sub-$500 converters from companies such as Tascam and M-Audio.

Macworld's Buying Advice

If you're an audio pro, or if you need to record sound or music on location for video work, the Mini-Me deserves your serious consideration. And if you're an enthusiast who wants to significantly improve the sound of song demos, it's definitely worth a look—just be prepared to trim your living expenses. And if OS X compatibility is crucial in your recording process, you may have to wait for Apogee's promised driver before making your purchase. □

RATING: ♦♦♦½
PROS: Professional-quality sound, controls, and compression; small and light; great for live recording.
CONS: Expensive for modest sound-conversion needs; subject to USB and OS limitations.
OS COMPATIBILITY: Mac OS 9, Mac OS X
PRICE: $1,495
COMPANY: Apogee, 310/915-1000, www.apogeedigital.com

Hewlett-Packard DesignJet 120nr

Flexible New Ink-Jet Printer Is Off-Color for Graphic Arts



BY BRUCE FRASER

Hewlett-Packard's new DesignJet 120nr has a lot going for it. It's a networkable, Rendezvous-enabled printer that handles a wide range of papers, including roll-fed papers that can produce prints 24 inches wide and 50 feet long. It uses six colors of dye-based inks in 4-picoliter droplets to produce very fine detail. The DesignJet 120nr is also quite speedy—a 2-by-3-foot print at best quality takes about 13 minutes to print, and a tabloid-size print takes about 4 minutes. The only flaw is the relatively poor color fidelity offered by the standard driver—a strange oversight in a printer aimed at the graphic-arts market.

Unpacking and installing the 48.4-pound, 41.3-by-20.5-by-8.7-inch printer is not particularly easy—the only instructions provided are several sheets of small numbered illustrations that definitely aren't designed for easy reading, so installing the roll feeder, paper cutter, ink cartridges, and print heads isn't as straightforward as we'd like.

By contrast, connecting the printer to our Mac network was easy (we used TCP/IP, but the printer also supports AppleTalk over 10/100BaseT Ethernet, as well as nonnetwork USB and parallel interfaces). Printer maintenance is also a snap: the printer hosts its own Web site, which you can access via a Web browser and then easily perform maintenance and diagnostics tests; if your network has Internet access, HP technicians can perform remote diagnostics if necessary.

The print quality is some of the best we've seen from an HP printer, much better than that of desktop printers such as the PhotoSmart 7550, and entirely comparable to that of competing Canon and Epson desktop dye-based printers such as the Canon S9000 Photo Printer and Epson Stylus Photo 1280 Inkjet Printer.

However, graphic artists may find that the standard printer driver's color-matching abilities leave a great deal to be desired—the driver ignores any color profiles embedded in files, and tends to shift blues toward cyan. (The driver offers some slider-based controls that let you adjust the output, but we found them ineffective.) HP offers an Adobe PostScript 3 software RIP ($335) that claims to provide full support for ColorSync and for Pantone color matching. If color matching is important to you, plan on either buying the RIP or building profiles yourself—we were able to get great color by building custom profiles for the papers we used.

Macworld's Buying Advice

If you need an all-round color printer that can handle a wide variety of paper formats, the HP DesignJet 120nr is a qualified contender. But if color matching is important to you, plan on adding the optional RIP unless you're experienced in color management and building profiles. □

RATING: ♦♦♦½
PROS: Flexible paper-handling options; excellent print quality; fast printing.
CONS: Base printer driver handles color poorly; inadequate setup instructions.
PRICE: $1,895
OS COMPATIBILITY: Mac OS 9, Mac OS X
COMPANY: Hewlett-Packard, 800/888-0262, www.hp.com

THE CONQUEST

DiskWarrior is Now OS X Native

It's the indispensable utility that repairs problems such as disks that won't mount, files you can't trash, and folders that have disappeared. MacUser magazine said, "It's the fastest and safest data recovery utility you can buy."

Macworld magazine said, "DiskWarrior is by far the best disk utility available for the Mac; it can repair virtually any disk problem you may encounter...and it is likely to become the only tool you'll want to keep with you at all times."

David Coursey, ZDNet AnchorDesk, agrees in an article comparing disk utilities. He used it to fix a disk that no other utility could. "DiskWarrior is a great product, not just because it fixed a pretty serious screw-up, but because it showed me what it planned to do in minute detail before doing it."

But disk damage isn't the only threat to your data. As hard drives get older, the drive mechanisms

THE UTILITY COMPANY
ALSOFT

Phone: 1-800-257-6381 Fax: 281-353-9868 Email: sales.info@alsoft.com Web Site: www.alsoft.com

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Bravo Disc Publisher

Disc Production Speeds Along with Personal DVD/CD Duplicator and Printer

BY ROBERT CAPPS

If you frequently burn, label, and distribute your own CDs or DVDs, you now have an alternative to sending a master disc to a disc-duplication service. The Bravo Disc Publisher, from Primera Technology, has everything you need to perform automated duplication and labeling of DVDs and CDs. It's an easy-to-use machine equipped with a robotic arm; two 25-disc reservoir trays; a 2,400-by-1,200-dpi ink-jet printer; and a 4× DVD-R, 16× CD-R drive. Anyone who runs batches of CD or DVD copies should consider the convenience afforded by a Bravo.

Setting up the Bravo Disc Publisher is straightforward, as long as you have both a USB and a FireWire port available. This could be problematic if you need those ports for other peripherals.

Using the two software components—Magic Mouse Production's Discus, for designing labels, and a specialized version of Charismac Engineering's Discribe (★★★½; May 2002), for operating the Bravo—is not difficult, but neither program is all that sophisticated. People with graphic-design experience will surely opt to forgo Discus and create labels in their preferred design programs. Fortunately, it's easy to print designs saved in almost any common image format.

Likewise, Discribe, while functional, is no Roxio Toast (★★★★; June 2002). While you need Discribe to access the Bravo's robotic feeder arm and to print, Toast will work with the Bravo's DVD-R/CD-R drive. So users who need Toast's functionality can create master discs and then use Discribe to duplicate those discs.

These easily circumvented nuisances aside, the Bravo consistently met our performance expectations. Burning speeds are what you'd expect from a 4× DVD-R (22 minutes or so). And printing is also reasonably brisk; a disc-covering full-color photo took just less than two minutes to complete. Of course, an image rendered on a disc isn't as clear as one on paper, but with some fine-tuning, we achieved fairly impressive-looking labels with the Bravo. Tack on another few minutes for the robotic arm to swing discs from tray to burner to printer to tray, and the entire disc-duplication process finishes in just less than 27 minutes per disc.



Macworld's Buying Advice

Although we'd like to see the included software refined and expanded, the Bravo Disc Publisher is a useful machine and a new option for people who burn CDs and DVDs. The Bravo is most cost-effective for people who need to duplicate a modest number of discs fairly regularly. □

RATING: ★★★★

PROS: Convenient compared with disc-duplication services; easy to use.

CONS: Limited software; uses both a USB and a FireWire port.

PRICE: $2,495; CD-R–only model, $1,995

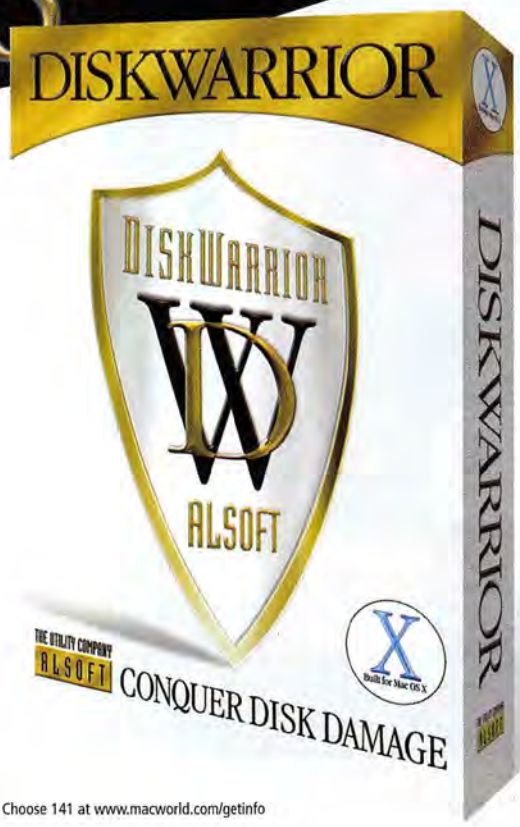
OS COMPATIBILITY: Mac OS X

COMPANY: Primera Technology, 763/475-6676, www.primeratechnology.com

CONTINUES

begin to malfunction. Eventually, the malfunctions become so severe that the drive simply stops working. DiskWarrior can automatically test for hardware malfunctions, giving you the chance to back up your data before it's too late.

Be prepared. Don't wait until after you have a disk disaster to buy your copy of DiskWarrior. Bob LeVitus, aka Dr. Mac, said, "I feel naked without DiskWarrior." You can believe MacHome magazine when they said, "DiskWarrior is a quick, one-click solution to faster, more stable hard drives."



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DeltaGraph 5.0

Visually Rich Charting Application Makes Belated Jump to OS X

BY FRANKLIN N. TESSLER

Over the years, we've repeatedly praised DeltaGraph for its ability to transform rows of mind-numbing figures into compelling charts (★★★★½; May 1999). The OS X–only DeltaGraph 5.0.2 is part of Red Rock Software's first release cycle since the company acquired the rights to DeltaGraph from SPSS last year. And aside from a few complaints about its advanced graphics features, we deem DeltaGraph 5.0 a strong effort.

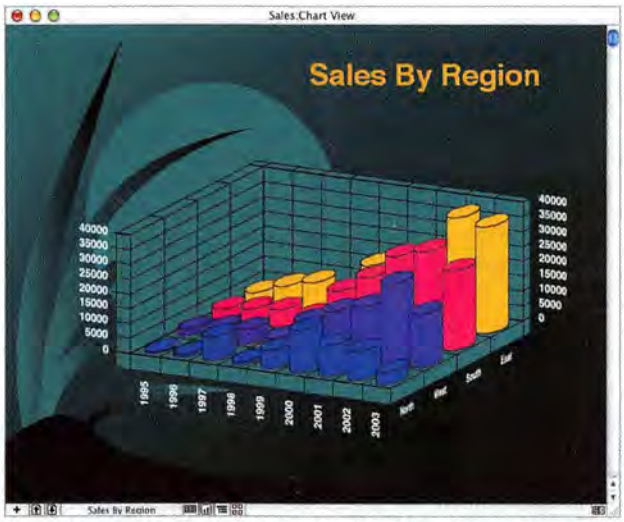


Chart Toppers DeltaGraph 5.0 lets you apply predefined layouts that specify a chart's layout attributes. You can also fill any 2-D chart element with a solid color, a gradient, or an imported picture.

DeltaGraph 5.0 retains a familiar spreadsheetlike interface for entering numeric data, with the top row and leftmost column reserved for labels. You can also import data files, including Excel and delimited-text formats.

The program's extensive repertoire comprises more than 80 types of technical, business, and statistical charts that range from simple bar graphs to 3-D surface plots. DeltaGraph also sports advanced plotting features such as programmable error bars and polynomial curve fitting for scientific work. If you're not sure which chart to use, a handy Chart Advisor feature helps you choose one that suits your data. You specify your intended audience and set a few other options, such as the level of display detail, and the program responds with a tailor-made list of recommendations.

You can customize the appearance of any chart component, text, or graphic—down to the length of the tick marks and the angle of the axis labels (see "Chart Toppers"). However, we're disappointed that the OS X version of DeltaGraph doesn't support soft drop shadows or transparency, features we've come to expect in OS X graphics applications. (Red Rock plans to add these capabilities by the end of the year.)

Another feature leverages DeltaGraph's ability to store multiple pages of charts in a single document; it lets you display your graphs sequentially in slide-show format. Still, we suspect that most users will opt to transfer DeltaGraph charts to dedicated presentation applications. DeltaGraph supports several export formats, but PDF isn't one of them. Apple's Keynote achieved the best results by converting our charts into PDF files, but we had to use the Save As PDF feature in Keynote's Print dialog box to do so.

DeltaGraph also reaches beyond traditional numerical charting by letting you work with text-based hierarchical data. You enter text into an outliner view that mimics a standard yellow notepad, complete with ruled lines and a red margin. Double-click on the symbol next to the top-level entry, and DeltaGraph generates a standard organizational chart or a bulleted text list. The results aren't as stunning as those you can get from dedicated diagramming programs such as The Omni Group's OmniGraffle (★★★★½; September 2003), but they're adequate for many tasks. You can use DeltaGraph to handle an entire presentation—charts and text—with one application.

Macworld's Buying Advice

The charting functions in Microsoft Excel and PowerPoint may be sufficient for simple jobs, but DeltaGraph 5.0.2 offers many more specialized chart formats than either program. If you can live with DeltaGraph's minor annoyances and limitations, most of which Red Rock says it will correct later this year, you'll reap the reward of an almost unlimited number of ways to get your message across. □

RATING: ★★★★

PROS: Wide selection of chart types; extensive formatting options.

CONS: Limited support for advanced graphics features in OS X.

PRICE: $299; upgrade, $199

OS COMPATIBILITY: Mac OS 9, Mac OS X

COMPANY: Red Rock Software, 801/322-4322, www.redrocksw.com



iListen 1.6

Dictation and Editing Anywhere That You Can Type

BY T. PATRICK HENEBRY

For Mac users who talk to their computers, there's a glimmer of hope—a speech-recognition program with select-by-saying capabilities anywhere they can type. MacSpeech's iListen 1.5.2 was a bit of a disappointment (♦♦; January 2003), but version 1.6.1 boasts some notable changes. iListen now lets you control your Mac with natural speech, and unlike IBM's ViaVoice (♦♦½; April 2002), it doesn't require that you use a proprietary word processor for editing. This last capability is a huge usability accomplishment that no other program offers.

RATING: ♦♦½
PROS: Hands-free dictation, editing, and correction in any program; support for digital recorders.
CONS: Incomplete documentation; new features are OS X only; limited built-in command-and-control capabilities.
PRICE: $99; with microphone, $149
OS COMPATIBILITY: Mac OS 9, Mac OS X
COMPANY: MacSpeech, 816/373-4506, www.macspeech.com

But iListen still has some rough edges. Due to limitations of Mac OS X, it isn't completely hands-free, so it's unsuitable if a disability restricts your hands or arms. And sadly, if you use OS 9, you get only iListen 1.5.5, which is merely version 1.5.2 with a few bug fixes.

As with any voice-recognition program, you must train iListen to recognize your voice before you can use it. iListen walks you through this easy process with its series of included training texts. (The program can also analyze your documents to learn your vocabulary.) We tested the software in OS X 10.2.6, using an 800MHz 15-inch flat-panel iMac G4 with 768MB of RAM. With the supplied microphone and USB adapter, our accuracy after reading the first training text was 89 percent. The more texts you read, the better recognition becomes.

If you dictate a lot and need a way to easily transfer audio recordings to your computer, you may be disappointed to know that our initial accuracy with an Olympus DS-2000 digital recorder was only 78 percent.

Errors are inevitable, and MacSpeech has made big improvements to the program's correction process. Correction is now hands-free, and iListen 1.6.1 includes a phonetic editor to deal with unusually spelled or pronounced words, such as *iChat* and *AirPort*. However, correcting mistakes can cause scrambled text, and although the included manuals offer preventative measures, they don't cover ways to deal with errors after they occur.



Getting It Right iListen 1.6.1's phonetic editor helps with unusually spelled words.

Macworld's Buying Advice

iListen 1.6.1 is moving in the right direction; its support for digital recorders and improved select-by-saying capability demonstrate this. But if you run OS 9 or need truly hands-free computing, you should look elsewhere. □



Clone'X

9X

0 mice; Tri/Edre, www.tri-edre.com; $50



According to its documentation, Clone'X is a utility that "allows you to easily clone the System [Folder] (Mac OS X, Mac OS 9, or Mac OS 8.6) that runs your computer." The reality is something entirely different. Clone'X thrashed our System Folder every time we tried to restore it to our machine—making our Mac unbootable.

Clone'X is easy enough to use. Open the program, click on the Clone button, choose your source and destination drives, and then click on the Clone button again. Clone'X creates a copy of your current System Folder and, if you choose, a copy of all your applications. Twice, we attempted to make a clone of our System Folder and restore it on top of our existing System Folder—we burned one clone to CD-ROM and another to a FireWire drive. The results were disastrous. Neither Mac would reboot after we completed the restore process with the clone. The clone we created on the FireWire drive hung up at the OS X startup screen, and the system we restored from CD no longer appeared as a bootable system in the Startup Disk system preference—so we had to reinstall OS X from our installation discs. Overall, Clone'X is a program to be avoided, unless you enjoy whiling away your hours reinstalling OS X.—JEFFERY BATTERSBY

ContentBarrier 10.0

9X

●●●½; Intego, 512/637-0700, www.intego.com; $60



Internet-filtering tool ContentBarrier 10.0.1 helps concerned parents set up custom filters that prevent their children from surfing certain parts of the Web. The program ships with four filter modes, but they offer little beyond either complete or significantly limited Web access, so you'll need to use the customizable filter. This filter lets you limit or allow access to specific types of pages or URLs on an individual basis. It works fine within the confines of a small user base—a home, for example—but if you have more than two or three computers, you'll want a more centralized, server-based filtering solution.

The program's useful Antipredator feature scans the content of instant-messaging sessions for phrases such as "Are you alone?" and "Can I see you?" It closes chat sessions if a filtered phrase appears. Unfortunately, the phrase database is very limited and doesn't contain cryptic but typical phrases such as "Do u want 2 meet me?" You can customize the phrase database—and you'll have to. And while the program's log records the name of the user that received the potentially dangerous message, it doesn't record the name of the sender, so ContentBarrier can't be configured to e-mail a parent or program administrator if the filter is triggered.—JEFFERY BATTERSBY

EarthDesk 2.0

9X

●●●; Trygve H. Inda, www.timepalette.com; $20

It's one thing to know in the abstract that people in other parts of the world are heading out to happy hour as you're waking up with the sun; it's quite another to see it happening. Trygve H. Inda's EarthDesk 2.0 makes a real-time map of the world on your computer desktop, so you can see when the sun rises—or sets—across the globe.

EarthDesk's extensive preference pane lets you choose the type of map projection you'd like to display (the 11 options include Mercator, Robinson, and Globe), and the lighting you'd like—full moon or no moon. You can add your favorite cities to a list and choose to center the map around one of those, or you can set the map to always center on wherever the global sunrise or moonrise lines happen to be.

The desktop image updates regularly; you set the frequency. We have one important complaint: although we listed several cities as our favorites, EarthDesk let us center the map around only one. It would have been nice to see all our favorites called out on the map.—LISA SCHMEISER

iView Media

9X

●●●●; iView Multimedia, www.iview-multimedia.com; $30



If you find that iPhoto is too sluggish when it's dealing with a large catalog of images, or if you want an inexpensive media-cataloging application that handles a wide variety of formats (including JPEG, MP3 audio files, and all media files compatible with QuickTime), look no further than iView Media.

As a photo-cataloging application, iView Media outperforms iPhoto in many ways—generating clearer thumbnails, displaying more information about the images, and creating catalogs far more quickly. Like iPhoto, iView Media can export pictures as HTML pages and back up media in its catalogs to CD-ROM or DVD-ROM. Unlike iPhoto, iView Media helps you identify and manage duplicate images, and it lets you search for images by such factors as file size, image width and height, and resolution.

Although iView Media is a flexible and affordable asset manager, it isn't perfect. iView Media can't export slide shows as QuickTime movies, as iPhoto and the $90 iView Media Pro can. The program also crashes when it encounters a corrupt file.

Despite these shortcomings, iView Media is a solid choice for people who need to manage media and who are on a budget.—CHRISTOPHER BREEN

SketchUp 3.0

X

●●●●●; @Last Software, 303/245-0086, www.sketchup.com; $495; upgrade, free if you bought SketchUp in 2003.

We thought that the 3-D–drawing program SketchUp 2.2 (●●●●½; June 2003) was great because it made 3-D modeling accessible to everyone. However, we noted some missing features—such as animation export, better transparency controls, and the ability to add text and dimensions. SketchUp 3.0 addresses each concern—and then some.

SketchUp now lets you export animations as QuickTime movies, and it lets you export still images as JPEG, PNG, and TIFF files. This greatly increases your ability to use SketchUp for presentations and to move creations to other applications or Web sites.

SketchUp's new dimensioning capability is almost perfect: in only two clicks, you can add a new dimension to a model. In addition, the dimensions are associative (so if you change the model, the dimensions are automatically updated).

You can now control the transparency of materials, too: with one command, you can make all the roof material in a building model transparent, so you can see inside the model.

@Last has added all these features and enhancements without violating the basic premise that makes SketchUp so successful: it is still extremely intuitive and easy to use.—GREG MILLER

To the Trash 1.1

X

●●½; Mireth Technology, www.mireth.com; $20



If you tremble at the thought of emptying your Mac's Trash, To the Trash can be your security blanket. To the Trash automatically deletes specific files, from one day to several millennia after you drop them on the program's icon. To the Trash lets you time-stamp the files you want to delete; it then places them in a temporary storage folder. A second application that works in tandem with To the Trash—Trash Collector—takes over from there: it watches the calendar and permanently deletes the time-stamped files at the appropriate time.

To the Trash works well, but because it consists of two separate applications, it can be a pain to manage. If you don't start Trash Collector, your files never get deleted. After you do start Trash Collector, it sits idly in your Dock, waiting for the calendar page to flip. It would make more sense for To the Trash to handle these deletions without requiring that you open Trash Collector. Also, deleting a file's alias actually deletes the original file, and there's no way to retrieve deleted files, short of digging through To the Trash's storage folder, a task only slightly less onerous than re-creating the document from scratch.—JEFFERY BATTERSBY

MSRP $ 3,795. Authentic US market AG-DVX100 product is offered with a complete set of supplied accessories and 12-month Panasonic US warranty. Third party or extended warranties are not endorsed by Panasonic. Find your local authorized Panasonic dealer at www.panasonic.com/broadcast.

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Revolutionary. That's the AG-DVX100 60i/30p/24p camcorder. Stunning images, phenomenal sound and superb ergonomics. Providing incredible 60i performance, and at the flip of our exclusive CineSwitch, the 24-frame cinema look in which primetime TV programs, commercials and motion pictures are shot. For more information, visit **www.panasonic.com/dvcinema** or call **1-800-528-8601**.

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AG-DVX100 is supported by your favorite 24P native non-linear editing solutions.

HOT PRODUCTS

Macworld's TOP 5



1 ★★★★ **QuarkXPress 6.0** ($1,045), from Quark (www.quark.com): The enhancements in this OS X–native version of QuarkXPress are worthwhile for any XPress-based production shop, and the upgrade pricing is easy to stomach (September 2003).

2 ★★★★½ **Acrobat Standard 6.0** ($299), from Adobe Systems (www.adobe.com): With its amazing workflow enhancements, Acrobat 6.0 Standard may finally make the paperless office a reality. If you're even slightly inclined to upgrade, do it without hesitation (September 2003).

3 ★★★★ **Final Cut Pro 4** ($999), from Apple Computer (www.apple.com): Final Cut Pro 4 has hundreds of improvements, and the new bundled applications are amazing, even taken on their own. The interface is very customizable, and the real-time effects features are great (September 2003).

4 ★★★★ **Third-generation iPods** ($299 to $499) and **iTunes 4** (free), from Apple Computer (www.apple.com): The combination of these two products makes us want to sing. Buy music with iTunes 4 and play it on the go on a new iPod? Sounds good to us (July 2003).

5 ★★★★ **Stylus Photo 900** ($199), from Epson (www.epson.com/northamerica.html): The first ink-jet that prints directly onto CDs and DVDs for easy labeling, the Stylus Photo 900 is also an excellent photo printer. For the price, you won't find a better printer with these capabilities (August 2003).

MINIFINDERS More Hot Products Recently Reviewed

★★★★½ **1GHz eMac** ($1,299), from Apple Computer (www.apple.com): The eMac retains its position as the best Mac desktop for education environments, and its squat, heavy, kid-resistant exterior and low, low price make it a great choice (August 2003).

★★★★★ **1GHz iMac G4, 17-inch** ($1,799), from Apple Computer (www.apple.com): The speed and power of this new iMac are remarkable, especially given its big LCD monitor and reasonable price. It provides support for AirPort Extreme and Bluetooth, too (May 2003).

★★★★ **2.52TB Xserve RAID** ($10,999), from Apple Computer (www.apple.com): For data-intensive work, the Xserve RAID truly delivers on performance, at an unheard-of price. It has awesome data-transfer rates, redundancy in most elements, and multi-platform support (September 2003).

★★★½ **900MHz iBook** ($1,299), from Apple Computer (www.apple.com): Weighing just less than 5 pounds, this laptop is great if you want to use the Web, an e-mail program, a word processor, or even some of Apple's iLife apps, but be aware that the keyboard may cramp your style and the G3 processor might slow you down (August 2003).

★★★★½ **Accordance 5.5c** ($139), from OakTree Software (www.oaksoft.com): Anyone who's interested in studying the Bible would do well to invest in Accordance. It offers tools for serious scholars, but it's simple and flexible enough for a novice student to use (September 2003).

★★★★½ **Acrobat 6.0 Professional** ($449), from Adobe Systems (www.adobe.com): Prepress professionals should upgrade to this version of Acrobat; it offers the control they've been waiting for. For other folks, the Standard version should be enough (September 2003).

★★★★½ **Apple Cinema Display** ($1,299), from Apple Computer (www.apple.com): This 20-inch flat-panel monitor manages to maintain consistent color no matter what your vantage point. If your Mac has an Apple Display Connector, you'll be happy with this display (August 2003).

★★★★½ **EOS 10D** ($1,499), from Canon (www.canon.com): The EOS 10D is simply a great digital SLR camera. Its well-balanced mix of features, comfort, good image quality, and a reasonable price should appease even the most finicky film-camera stalwart (September 2003).

★★★★ **EvoCam 3.1** ($20), from Evological (www.evological.com): EvoCam is a powerful but easy-to-use program that turns any QuickTime-compatible FireWire video camera into a Web cam. You have access to QuickTime effects, so you can present yourself any way you like (September 2003).

★★★★½ **ExtendAir Direct** ($150), from Dr. Bott (www.drbott.com): If you need better AirPort Extreme range in one direction, this external antenna may be the perfect solution. The Direct is a good choice if you live in a narrow home with a long central hallway (September 2003).

★★★★ **ExtendAir Omni** ($100), from Dr. Bott (www.drbott.com): If you need better AirPort Extreme range in all directions, this external antenna may be the perfect solution. The Omni is the best choice for most homes (September 2003).

★★★★ **Final Cut Express 1.0** ($300), from Apple Computer (www.apple.com): At a third of Final Cut Pro's price, this DV-only video-editing package brings professional features to users looking to move up from iMovie (May 2003).

★★★★½ **FontDoctor 5.5** ($70), from Morrison SoftDesign (www.morrisonsoftdesign.com): If you have a large collection of fonts that sometimes causes trouble, FontDoctor can cure what ails you. It's an industry standard for a reason: it knows how to diagnose and treat font problems (September 2003).

★★★★½ **FTP Client 4.0.1** ($35), from Vicomsoft (www.vicomsoft.com): FTP Client has a well-designed user interface and performs exceptionally well. It also gives you the invaluable ability to create fast-access droplets (September 2003).

★★★★ **ImageModeler 3.5** ($750), from Realviz (www.realviz.com): This easy, fun tool for making 3-D models from photographs may be pricey for hobbyists. But for architects, product designers, and animators, ImageModeler 3.5 is a great buy (September 2003).

★★★★ **Marine Aquarium 2.0** ($20), from Prolific Publishing (distributed by Encore Software, www.encoresoftware.com): This seemingly frivolous screensaver can turn your Mac into a sleek and stylish aquarium complete with fish, coral formations, and even algae (September 2003).

★★★★ **Mask Pro 3** ($200), from Extensis (www.extensis.com): This latest upgrade to Extensis's excellent masking plug-in for Photoshop offers a number of new selection tools and masking utilities, as well as OS X support, making it essential for the avid Photoshop user. We recommend it to anyone who needs to make quick, accurate masks (August 2003).

★★★★½ **Mercury Elite Pro FireWire 800** ($519), from Other World Computing (www.macsales.com): We recommend this 250GB FireWire 800 drive above all others; it has the lowest price of the drives we reviewed and includes a variety of ports that make it compatible with a wide range of machines (September 2003).

★★★★½ **OmniGraffle 3.0 Professional** ($120), from The Omni Group (www.omnigroup.com): With design tools that rival those of many illustration programs—and some one-of-a-kind chart-making tools—this app is marching boldly into the future of diagramming in OS X (September 2003).

★★★★½ **Painter 8** ($299), from Corel (www.procreate.com): This newest version of the venerable natural-media painting software, with many new brushes and tools, is well worth purchasing. The sweeping interface improvements make Painter so intuitive, you'll be glad you switched (August 2003).

★★★★ **Portfolio 6.1** ($200), from Extensis (www.extensis.com): Taking advantage of OS X's interface and structure, this version gives you the power to quickly decide whether a file is a digital asset or digital detritus (July 2003).

★★★★½ **PowerShot A70** ($399), from Canon (www.canon.com): A full suite of manual controls, a nice movie mode, and support for both conversion lenses and an underwater case put this 3.2-megapixel digital camera way ahead of the competition (July 2003).

★★★★ **PowerShot S400 Digital Elph** ($599), from Canon (www.canon.com): This great 4-megapixel digital camera features a stunning all-metal body with a special scratch-resistant coating; quite good photo quality; and no red-eye problems (July 2003).

★★★★½ **Pro Tools LE 6** ($75), from Digidesign (www.digidesign.com): Pro Tools LE 6 doesn't hold any surprises, but it does provide a comfortable transition to OS X. Its new file-management tools and MIDI capabilities are excellent additions (June 2003).

★★★★½ **RealBasic 5.0** ($100), from Real Software (www.realsoftware.com): With a rebuilt compiler and debugger, and the incorporation of OS X's interface features, RealBasic remains the most enjoyable way to develop modern and muscular Mac applications (July 2003).

★★★★ **Second-generation Xserve** ($2,799), from Apple Computer (www.apple.com): The Xserve isn't yet perfect, but with the latest tweaks, including a faster CPU and improvements to the cooling and ventilation systems, it just got closer. It's still the easiest server to manage (September 2003).

★★★½ **TextWrangler 1.0** ($49), from Bare Bones Software (www.barebones.com): This is a moderately powerful tool for sorting, processing, and editing text files. If you spend a lot of time looking at config files or database exports, TextWrangler is a good option (July 2003).

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ENIGMO
RATING: ★★★★½
PROS: Simple controls; beautiful graphics that scale to your video card's capabilities; free add-on levels.
CONS: No way to replay levels; music repeats.
PRICE: $25; download, $20
OS COMPATIBILITY: Mac OS 9, Mac OS X
COMPANY: Pangea Software, www.pangeasoft.net

advantage of high-end graphics cards when possible. However, the developer has also included a Rage 128 mode that scales back the detail to the bare minimum, so Mac users with older ATI graphics cards can participate, too. The game supports wide-screen resolutions, and you can play it in a window if you prefer.

Enigmo's sound effects and music (some culled from past Pangea offerings) are pleasant but can become a bit tiresome. Fortunately, you can turn the music off.

Enigmo has a built-in level editor that lets you try your hand at making new puzzles. In fact, Pangea maintains a Web page where players can download custom levels designed by other Enigmo players.

You can download the game from Pangea's Web site for $20. Or if you prefer, you can get it on a CD-ROM for $25—it's chock-full of other goodies, such as demos of Pangea's other games.

The Bottom Line In a genre crowded with action-puzzle games that are pale imitations of precious few good ideas, Enigmo stands alone—both for its unique design and its high production quality. Give this one a try.

Snood Shooting

Bust-A-Move is a classic Japanese arcade game in which you eliminate colored balls along the top of the screen by shooting them with similarly colored cannonballs. Over the years, there have been numerous remakes of this simple premise. However, few have had the longevity or prolific tendency of David M. Dobson's Snood. Originally developed in the mid-1990s as a shareware Mac title, Snood has since been ported to Palm OS, the PocketPC, Windows, and even cell phones. As an OS X title, it has now come full circle.

Snood v3 eschews colored balls, in favor of monster faces named Jake, Zod, Midoribe, Geji, Sunny, Mildred, Spike, and Numbskull. The premise, however, is the same: you must free all the trapped Snoods by launching other Snoods at them. Connecting three or more identical Snoods transports them away. The occasional Magic Snood will help you: Stone Snood, for example, can dislodge any Snoods adjacent to him, while a Wildcard Snood can connect any pair of Snoods he touches.

The game features multiple levels of difficulty and an enormous number of options. You can change the background color, turn sound on or off, activate an aiming crosshair, undo your last shot if you mess up, and more.

Snood's interface is a little clunky and, to be honest, is showing its age. The myriad menu items might be confusing for younger players, but it's easy enough for adults to set up a game and get players off and running quickly. Snood is perfect for parents looking for a challenging, kid-friendly arcade-style puzzle game without any offensive or questionable material. And kids love the ogling Snood faces.



The Many Faces of Snood Use your cannon to connect similar Snoods and clear the screen in this Mac classic.

The Bottom Line Snood v3 is a bona fide Mac classic that's now native on Mac OS X. Download it and try it out. □

SNOOD V3
RATING: ★★★½
PROS: Lots of options; simple controls.
CONS: Inelegant interface.
PRICE: $15
OS COMPATIBILITY: Mac OS 9, Mac OS X
COMPANY: Snood, 818/999-9220, www.snood.com

MacCentral.com Senior Editor PETER COHEN can hit a golf ball 245 yards straight as an arrow, as long as it's on a virtual golf course.

Enigmatic

Pangea Software is best known for intricate and beautiful adventure games such as Bugdom and Otto Matic (both are Macworld Game Hall of Fame honorees). Recently, Pangea decided to apply that same excellent production value to a series of smaller games. The first fruit of that labor is the aptly named Enigmo, an action-oriented puzzle game that not only is mesmerizing, but also will have you scratching your head for solutions.



Let It Flow Clear a path for dropping liquid before time runs out, in the beautifully detailed brain twister Enigmo.

In Enigmo, you're faced with a series of 50 puzzles of increasing difficulty. Each puzzle contains one or more droppers filled with oil, water, or lava. As the liquid spills out, you have to get each substance to its proper receptacle, using whatever tools are at your disposal. You have to get them past walls, around barriers, and even through force fields in some cases. To aid you, each level offers sparing access to devices such as bumpers, sliders, accelerators, and sponges.

Maneuvering through the game is easy and intuitive, so you're free to focus on the challenge ahead of you. As you work, a bonus clock counts down rapidly in the upper right-hand corner of the screen. The faster you come to a solution, the higher your bonus. If you take too long, the bonus dwindles to nothing and your only reward is being able to progress to the next level.

The level design is often ingenious and frustrating. You'll sit there long after the bonus clock has evaporated, waiting for inspiration to strike. Alas, there's no way to replay individual levels to see if you can beat your previous time. (A kid's mode offers 20 levels for younger players, who may be a bit overwhelmed by the 50 regular ones.)

Each level is full of richly detailed and textured 3-D objects, some glistening with reflective or translucent surfaces. Water and oil droplets glimmer with impressive particle effects, while luminescent lava casts little star bursts of light. Enigmo takes

continues

Now Where's the NOS?

I've found what is unquestionably the most useless peripheral I've ever had the dubious honor of reviewing—yet it's somehow intriguing: Antec's iLuminate, a USB-powered, external LED light tube that attaches to your Mac or monitor ($17; 888/542-6832, www.antec-inc.com).



The iLuminate is a 12-inch-long tube that's connected to a small box about the size of a butane lighter. The box sports a three-position power switch (Off, On, and Sound-Activated), a sensitivity dial, and a cable that draws power from your USB port.

When turned on, the long LED-filled tube lights up with seven different colors. (Single-color versions are also available.) If you set it to Sound-Activation mode, the lights flash whenever there's a loud sound. The sound is being registered, as near as I can tell, by the box—not through the USB port—so the closer you place that box to the speakers, the more active the lights will be. Pressing a button on top of the control box cycles through the available colors.

The iLuminate serves no practical purpose. But it does cause your Mac to flash in different colors whenever there's a big sound from a game, such as an explosion or monster growl, and it can make the Mac flash in time with music. Antec provides adhesive mounting pads so you can stick your iLuminate to the surface of your monitor or wherever you'd like. Make sure you really want to gum up your Mac or monitor before you attach them.

The Bottom Line The iLuminate is a bizarre bit of kitschy customization that might appeal to some gamers—or the sort of person who installs light kits under a car chassis.



- Tiger Woods PGA Tour 2003
- SpyHunter
- Enigmo
- iLuminate
- Snood v3

Eye of the Tiger

TIGER WOODS HAS PULLED OFF ONE OF THE UNLIKELIEST feats of our time—making the competitive world of pro golf *interesting*. So it's fitting that he has lent his name to Aspyr's Tiger Woods PGA Tour 2003, a game that redefines the virtual-golf genre.

Forget everything you know about golf games on the Mac. From its intuitive swing control to its stunningly beautiful graphics, Tiger Woods PGA Tour 2003 is truly unlike past attempts. The game looks and plays like a golf game should, and it will, hopefully, serve as the blueprint for future golf games.



Hole in One Step into the shoes of Tiger Woods in Aspyr's excellent Tiger Woods PGA Tour 2003.

Walking the links as Tiger or one of more than a dozen other PGA Tour pros, you can play some of the best-known courses in the world, from Pebble Beach to St. Andrews. In the game's Career mode, you can create your own custom golfer and work your way up the PGA Tour ranks. As you compete, you'll earn money for equipment or additional skills. Or switch to the Play Golf mode to choose from a dizzying number of additional game options, including practice rounds, a tour challenge, skins, a skills competition of nine different tests, and an elimination round.

You'll quickly get the hang of hitting the ball, thanks to TrueSwing, the game's method of tracking how your mouse moves. To swing your club, simply hold down your mouse button, draw the mouse toward you for the backswing, and then away from you for the downswing and follow-through. How accurately you track the mouse affects the ball's fade and draw; go too far off the line, and you'll likely hook or slice your shot badly.

TIGER WOODS PGA TOUR 2003
RATING: ♦♦♦♦½
PROS: Gorgeous graphics with adjustable levels of detail; good variety of game-play modes.
CONS: Can't connect to Windows gamers online.
PRICE: $50
OS COMPATIBILITY: Mac OS 9, Mac OS X
COMPANY: Aspyr Media, 888/212-7797, www.aspyr.com

An analyzer pops up with each swing and shows you how well you hit; it'll give you stats such as club speed, impact type, and flight path.

This game looks as good as it plays. If you have the horsepower and a sufficient video-graphics system, you can turn on detail settings such as antialiasing and anisotropic filtering to create a more realistic environment. (Sadly, you won't see the shimmering, rippled water effects that are touted in the Windows version. Due to differences between OpenGL and the Windows Direct3D API, the Mac version lacks the animation available to PC users. Still, the water looks great, especially with the Reflections option activated.) Admittedly, the game runs slower with all settings cranked than it does at default settings—but boy, is it pretty. Tiger and the other golfers still look a bit like mannequins, but they behave exactly as you'd expect from seeing them on television. When Tiger sinks a birdie from off the green, for example, he does his well-known power fist. Or he may pound the green after missing a putt.

> Forget everything you know about golf games on the Mac.

Once you're comfortable with the basic mechanics of the game, you may want to find some other players for an online foursome. Tiger Woods PGA Tour 2003 can accommodate as many as eight online players at a time. Internet play is handled through direct TCP/IP connections, via GameRanger (the Mac-only online gaming service), or over a LAN. Alas, the PC version uses proprietary Windows networking technology and is therefore incompatible with the Mac version.

The Bottom Line Tiger Woods PGA Tour 2003 is a superlative golf game. It looks beautiful, especially with optional levels of detail activated. Aspyr has set a new standard for golfing on the Mac.

continues



Spy Games

Most gamers probably won't remember the 1950s detective show *Peter Gunn*. But start whistling the theme song, and many people in their thirties are likely to shout out, "SpyHunter!" For a generation of arcade-game fans, that theme is forever associated with driving a white sports car down a narrow highway, blasting enemy cars with machine guns, and spraying oil in your wake to keep armed bad guys off your tail. Now SpyHunter is back for the Mac, this time from Aspyr Media.

Any good secret-agent story requires an evil, covert organization, and SpyHunter's is NOSTRA. The group plans to deplete the world of electricity, using a networked array of satellites. Your job, of course, is to put an end to NOSTRA's scheming.

In SpyHunter, you drive a G-6155 Interceptor. Like James Bond, XXX, and other secret agents, you have a vehicle stuffed to the gills with weapons: machine guns, missiles, tracking devices, oil slicks, and such. What's more, your Interceptor can transform from a high-performance race car into a speedboat. And if it's seriously hit, it can even shed damaged parts and become a motorcycle or jet ski, depending on the terrain. Although the smaller vehicles are more maneuverable, they're also less protected and equipped with fewer weapons. If you manage to dodge bullets long enough to make it to the Weapons Van, you can rebuild and restock your Interceptor.



Secret Agent In SpyHunter, your G-6155 Interceptor has everything you'll need to complete missions and thwart the enemy.

To complete each mission, you must finish a primary objective—a task such as tagging boats with tracking devices or blowing up structures. There are also secondary objectives—destroy all of a certain class of enemy vehicle, for example—for which you receive bonuses. Complete all missions, and you unlock an upgraded vehicle.

Driving through each level is a linear affair; there's a start point and an end point, and you have a finite number of minutes to complete each objective and rendezvous with your contact. However, you can often ferret out shortcuts or secondary routes.

SpyHunter came out some time ago for consoles, but it was only this past summer that the game made its debut on the Mac and PC—simultaneously, thanks to the efforts of Aspyr and its development partner, Transgaming Technologies. (SpyHunter requires OS X 10.2.4.) While the game has some amenities that you won't find in the console versions, such as support for multiple resolutions, its origins remain all too obvious—particularly when it comes to graphics. It's a bit jarring to stare at high-resolution images of your car and enemies and low-resolution, blocky background images and dithered explosions.

Admittedly, those are minor quibbles. More unsettling were a few problems that Aspyr wasn't able to resolve for me. Twice a level failed to load, requiring that I force-quit the application and restart. On top of that, the game occasionally acted as if I had pressed keys I hadn't. Aspyr blamed this problem on a faulty keyboard or mouse, but it hasn't happened in any other game or application I've tested on my system.

It's worth noting that SpyHunter is Aspyr's first attempt to create a title for both the Mac and the PC in hopes of narrowing the gap between when the PC version ships and when the Mac version ships. It's just too bad that this game is already long in the tooth if you have a console lying around the house.

The Bottom Line SpyHunter is a fun arcade-style driving romp, a genre we don't have enough of on the Mac. Its age and some stability issues work against it, but fans of the original and curious newcomers will find plenty to enjoy.

SPYHUNTER

RATING: ♦♦♦

PROS: Adjustable resolution; plenty of bonuses and extras to uncover.

CONS: Stability problems; already old news for console enthusiasts.

PRICE: $30

OS COMPATIBILITY: Mac OS X

COMPANY: Aspyr Media, 888/212-7797, www.aspyr.com

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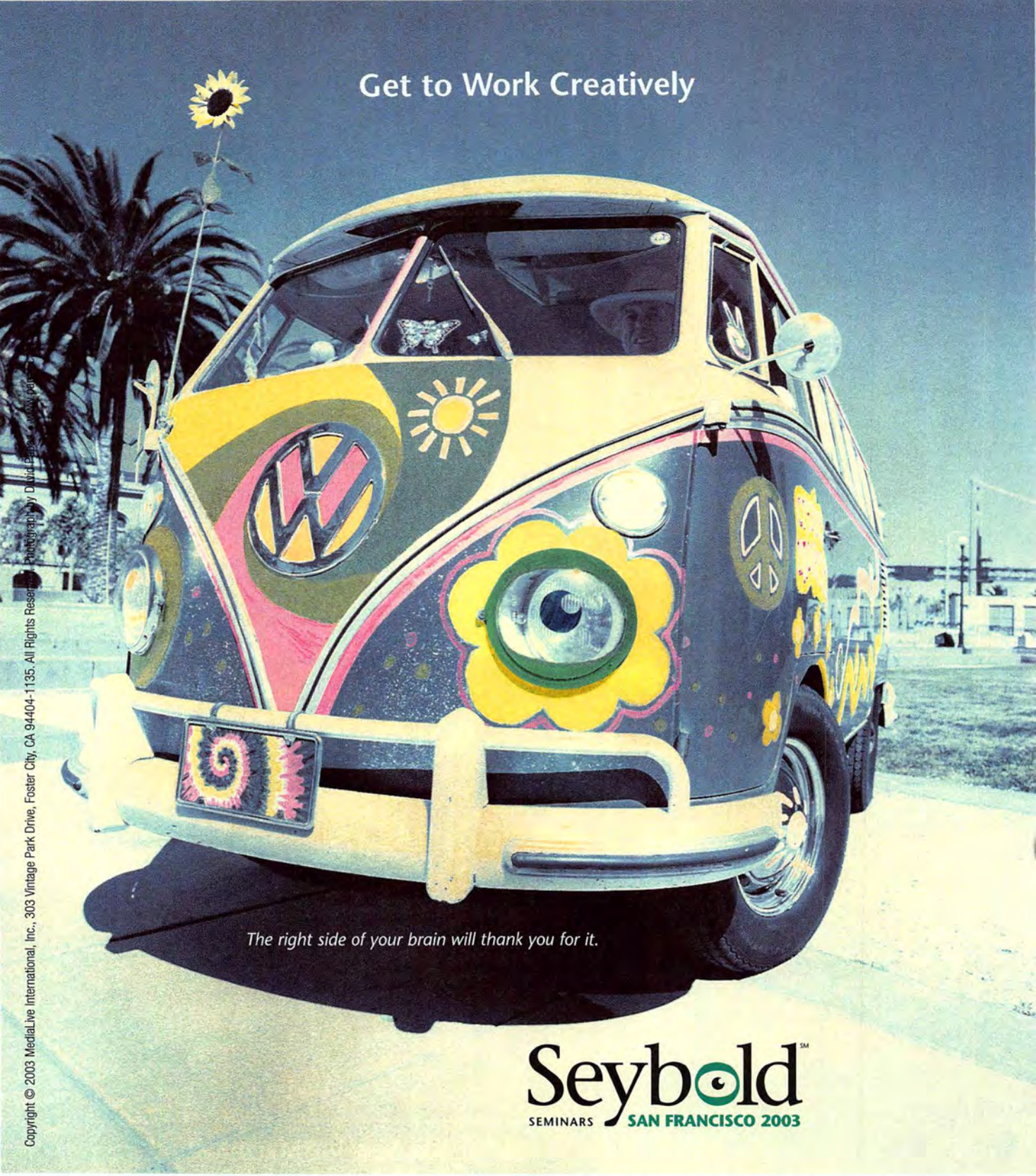
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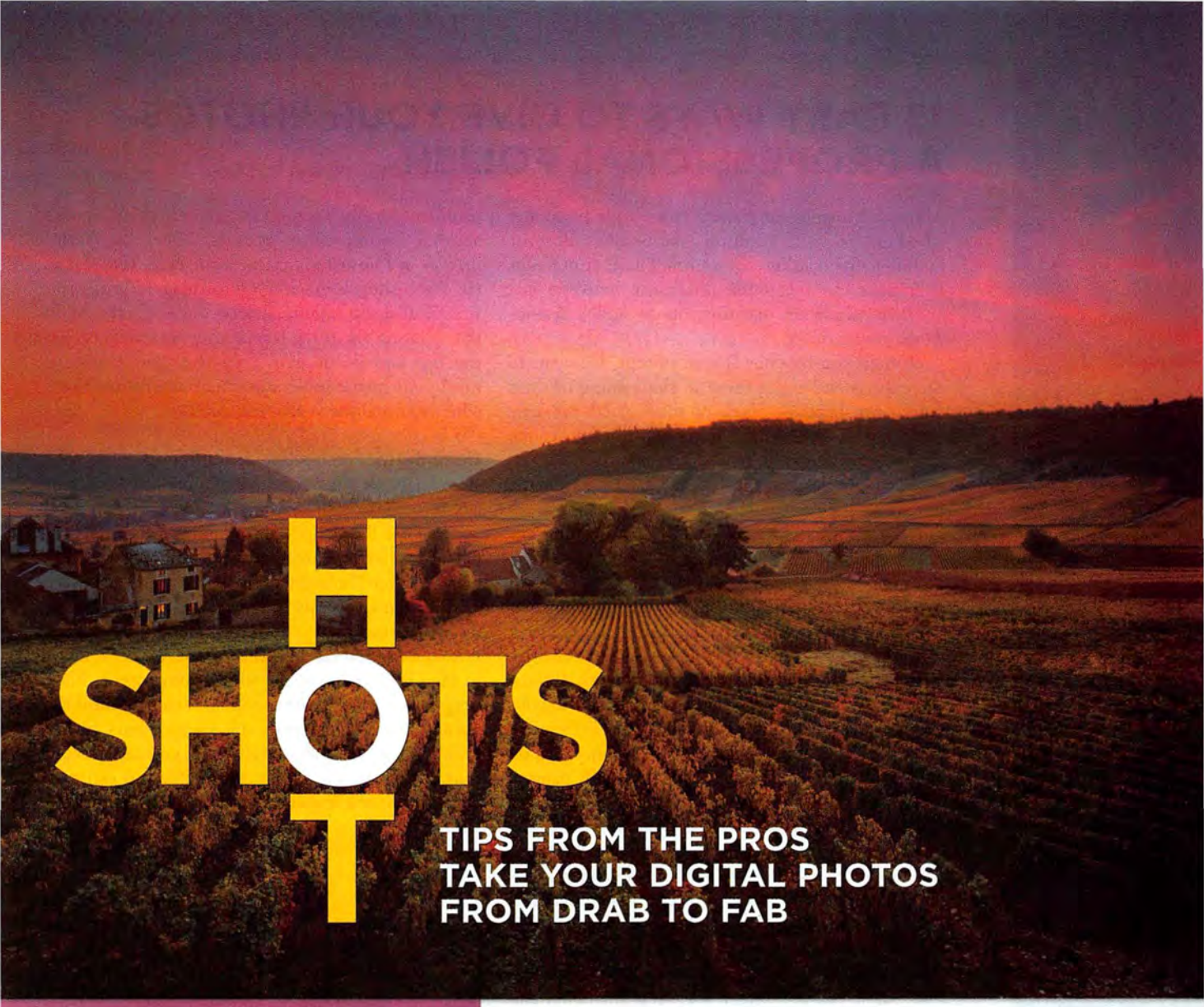
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HOT SHOTS

TIPS FROM THE PROS TAKE YOUR DIGITAL PHOTOS FROM DRAB TO FAB

THE EXPERTS

Contributing Editor **BRUCE FRASER** is the author of *Real World Color Management* (Peachpit Press, 2003). He regularly reviews printers for *Macworld*.

TERRI STONE is a senior editor at *Macworld*. She has been involved in the publishing industry for 13 years.

DERRICK STORY is a professional photographer and the managing editor of macdevcenter.com. He has written and coauthored several books, including *iPhoto 2: The Missing Manual* (O'Reilly & Associates, 2003) and the *Digital Photography Pocket Guide* (O'Reilly & Associates, 2002); both are available at www.oreilly.com.

BEN WILLMORE is the author of *Adobe Photoshop 7 Studio Techniques* (Adobe Press, 2002). He travels the world training other photographers to use Photoshop. You can find information about his seminars, books, videos, and other training materials at www.digitalmastery.com.

DESPITE THE POINT-AND-SHOOT EASE of most digital cameras, getting a perfect shot is hardly a simple process. Hey, even professional photographers don't always get it right. So why do their pictures look so much better than ours? True, the pros have had lots of practice; however, they also know how to use image-editing software to give their images a little extra oomph.

But here's a little-known fact: these tricks aren't hard. We went to the photography experts and asked them to share the secrets of the trade. They offered hands-on tips—on everything from exposing harsh shadows to correcting bad colors—to help you get great-looking images. And these experts had plenty of practical advice about printing and managing images, too.

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FIX YOUR PHOTOS

13 EASY WAYS TO GIVE YOUR PHOTOS A PROFESSIONAL POLISH

Almost all images can benefit from some tweaking, whether it's with a simple sharpening filter or by full-fledged color correction. These minor nips and tucks can mean the difference between just another humdrum vacation photo and a frame-worthy work of art.

To help you fix your flawed photos, we went to the experts and asked them to share some of their favorite techniques. Each of these tried-and-true tricks works in Adobe Photoshop and/or Adobe Photoshop Elements, two of the most flexible and most widely used image-editing programs on the Mac (see "The Software"). Even better, they're all quick and easy, so you can get away from your computer and get on with enjoying your photos.

Straighten Crooked Images

The first thing I do when I open an image is check to see whether it's straight. You can quickly restore a sense of balance to off-kilter photos with Photoshop's Measure tool. First, find a straight line in your image that should be horizontal or vertical (the horizon or the side of a building, for example). Click on and hold the Eyedropper tool in the Tools palette, and select the Measure tool (it looks like a ruler) from the pop-up menu. Then click on one end of the line in your image and drag your cursor to the opposite end of the line. This tells Photoshop what needs straightening. Next, choose Image: Rotate Canvas: Arbitrary, and use the default Angle setting, which is calculated from the line you drew.

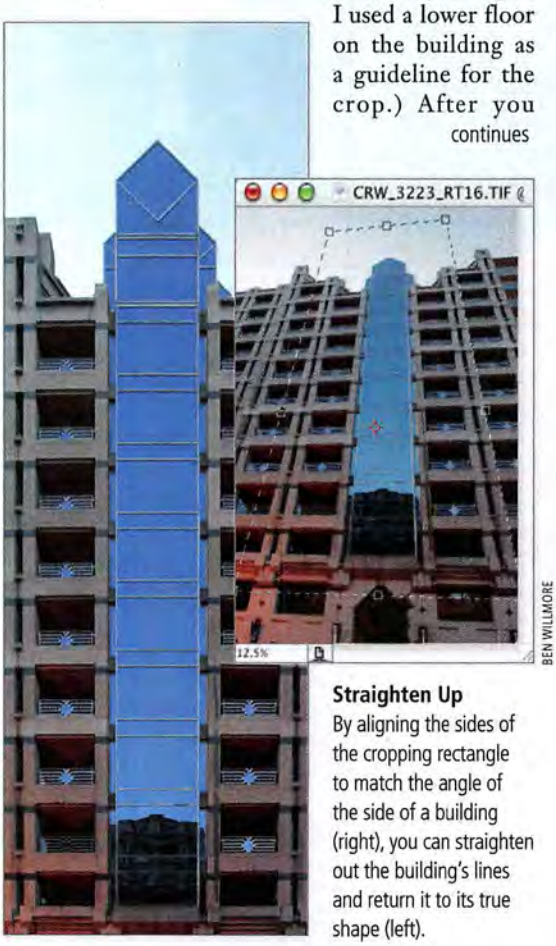
If you can't find an obvious horizontal or vertical line—or if you're using Photoshop Elements and the Straighten Image command doesn't solve the problem (Image: Rotate: Straighten Image)—there's another option. Press ⌘-A to select the entire image. In Photoshop, go to Edit: Free Transform. (In Photoshop Elements, go to Image: Transform: Free Transform.) Now, click on the Angle setting in the Options bar at the top of your screen and press the up- and down-arrow keys on your keyboard until your image looks straight. Press return twice when you're done.—BEN WILLMORE

Get a Better Perspective on Buildings

If you have an image with converging lines—such as a photo of a very tall building shot from the ground—you can use the Crop tool to minimize the effects of perspective and rehabilitate the building's perpendicular lines (see "Straighten Up").

With the Crop tool selected, click and drag your mouse to create a cropping rectangle over your image, and then click on the Perspective check box in the Options bar at the top of your screen. Now drag each corner of the cropping rectangle until the corners are aligned with the four corners of the building you want to straighten. If you can't see all four corners in the image, you'll need to estimate where to place a few of the corners. (In my example, I used a lower floor on the building as a guideline for the crop.) After you

continues



BEN WILLMORE

Straighten Up
By aligning the sides of the cropping rectangle to match the angle of the side of a building (right), you can straighten out the building's lines and return it to its true shape (left).

THE SOFTWARE

There's no shortage of image-editing software on the Mac. In fact, Apple has built some useful editing tools right into iPhoto. But to go beyond the basics of lightening, sharpening, and cropping your photos, it helps to have a dedicated application. And we think two of the best are Adobe Photoshop and Adobe Photoshop Elements (www.adobe.com). Here's why:

Adobe Photoshop 7.0 is the professional standard for image-editing applications. It offers a complete suite of tools for correcting, polishing, and publishing your images. It also comes with a professional price—$609. However, if you spend a lot of time getting your photos just right and feel constrained by more-limited applications, Photoshop may well be worth the money and effort.

Adobe Photoshop Elements 2.0 includes a lot of the features and tools found in Photoshop, but it has a simpler interface and a much more inviting price—$99. Adobe designed the program specifically for casual digital photographers, building in easy-to-use features for eliminating red eye, scaling down photos for e-mail or the Web, and correcting color casts. It also comes bundled with some scanners and printers. You can download a trial version from Adobe's Web site if you'd like to try it out first.

All of our tips work in one—if not both—of these programs, and most also work in older versions of the software.

LIGHTEN HARSH SHADOWS



SVEN WEIDERHOLT



Even the most sophisticated digital cameras have trouble capturing scenes with strong shadows or harsh backlighting. In these cases, your camera's fill-flash feature can help by adding some much needed illumination. However, if you forgot to turn it on when you were taking the photo, you can create the same effect after the fact with Photoshop.

The idea is simple: You find a channel that shows the strongest contrast between the photo's subject and its background. Then you use this channel to create a mask of the troublesome shadows. Once you've selected the problem area, you can easily apply a host of image-correction tools to just these areas, leaving the brightly lit portions of the image untouched.

The process requires only a few minutes of work, and the result is very similar to the real thing. In fact, this technique makes a lot of images look better, regardless of the shooting situation.

STEP 1: CREATE A MASK CHANNEL

In Photoshop, open the Channels window and examine the Red, Green, and Blue channels in turn. Find the channel that shows the best contrast between the image you want to lighten and the background. (For this example, we chose the Blue channel.)

When you've found the channel, duplicate it by dragging its title onto the Create New Channel icon at the bottom of the Channels window. A copy of the duplicated channel appears at the bottom of the list. Double-click on its title, and rename it "Mask."

STEP 2: MODIFY THE LEVELS

To make an effective mask, you'll need to exaggerate the tonal difference between your subject and the brighter background. With the new Mask channel selected, open the Levels control panel (Image: Adjustments: Levels). Adjust the sliders to make your subject as dark as possible, while also lightening the background and eliminating most of the tonality there.

STEP 3: INVERT THE IMAGE

Photoshop's masking features follow the metaphor of film masks: white areas allow an effect to take place, while black areas are treated as opaque and are therefore unaffected. Since you want this mask to affect the image's shadows, you need to Invert (⌘-I) the current image to create a negative.

STEP 4: REFINE THE MASK

Your photo's background probably contains at least some shadows (represented by white or gray areas). Because you don't want to lighten these areas along with your subject, you'll need to remove them from your mask. With the Brush tool set to black, paint over any areas that you don't want to change. When you're done, add a small amount of Gaussian Blur (Filters: Blur: Gaussian Blur)—usually between 0.25 and 1.5 pixels. This will soften the edges of the mask, preventing its effect from being too obvious in the final image. You don't have to be terribly careful here, as this process is very forgiving.

STEP 5: APPLY THE MASK

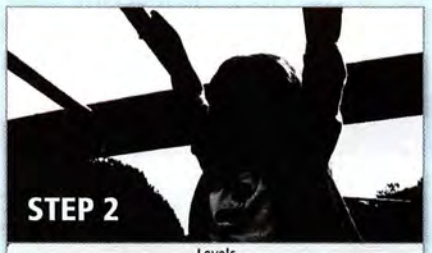
Once your Mask channel is complete, return to the image's RGB view by clicking on the RGB title in the Channels window. Your original image should appear unaltered. Next, open the Select menu and choose Load Selection. If it's not already selected, choose Mask from the Channel pull-down menu and then click on OK. Photoshop will create a selection area based on your Mask channel. If you find the moving selection indicator too distracting, you can hide it by pressing ⌘-H.

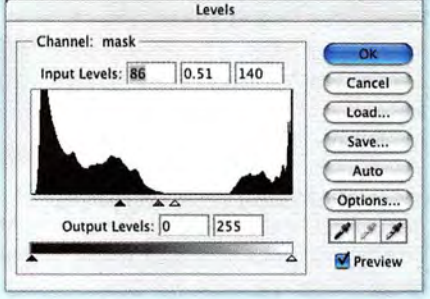
You can now use Levels or Curves to lighten your subject appropriately. Keep in mind that if you go too far, the image will have areas of posterization.

If an overall tonal adjustment is needed, simply deselect the mask (⌘-control-D), and you're free to modify the entire image. If you want to preserve the Mask channel in case you need to make future adjustments, save the image as a TIFF or a Photoshop file.—BRIAN P. LAWLER

This article originally appeared on creativepro.com. You can find the full version at www.creativepro.com:80/story/feature/18468.html.











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Heavenly Beauty
By darkening the sky, you can turn a pretty landscape (left) into a dramatic vision (right).

have all four corners positioned so that the sides of the cropping rectangle line up with the sides of your object, drag the side handles (*not* the corners) of the crop outline until most of your image is within the cropping rectangle. When you press return, the top of your image will stretch to straighten your lines and give the illusion that the photo was taken from straight on rather than from the ground.—BW

Create Stunning Skies

For a truly dramatic landscape, darken the skies in your images while keeping the lightest areas of any clouds bright (see "Heavenly Beauty").

First, select the sky in your image. If there's a well-defined edge between the sky and the foreground, you can use the Marquee tool to select the general tones of the sky—be careful not to include any other elements—and then choose Grow from the Select menu. (If this doesn't produce an effective selection, use one of the lasso tools to create a more accurate selection.) When you have your selection, choose Layer: New Fill Layer: Solid Color. Set the Mode pop-up menu to Color Burn, and click on OK. When the Color Picker appears, click on the white area. Slowly select darker and darker grays until the sky looks the way you want it to.—BW

Control Contrast

Photoshop's Levels feature (⌘-L) is great for tweaking the brightness and contrast of your image. By moving the three arrows beneath the Level's histogram, you can quickly adjust your image's shadows, highlights, and midtones. The only prob-

continues

OUR FAVORITE DIGITAL CAMERAS

When you buy a new digital camera, there's no shortage of options. In fact, it seems that every few months a new generation of cameras appears in our lab, sporting a slew of new features and new, lower prices.

Digital cameras are typically grouped—and priced—according to how many pixels they capture. If you're primarily looking to get 4-by-6-inch prints or to publish your images to a Web site, a 2- or 3-megapixel camera will certainly do the trick. However, if you want the option of printing sharp, detailed images larger than 5 by 7 inches, you'll need more pixels. A good 4- or 5-megapixel camera will let you print crisp images as large as 11 by 17 inches and even larger.

Here are a few of our current favorites:



PANASONIC LUMIX DMC-FZ1
This 2-megapixel camera stands out thanks to an amazing 12× zoom with optical image stabilization, which helps prevent blurry images. It's also a lot of fun to use (●●●½; see our review on page 38).
COMPANY: Panasonic, 800/742-8086, www.panasonic.com
PRICE: $449



CANON POWERSHOT A70
This 3.2-megapixel camera comes with a full suite of manual controls and an autofocus illuminator for focusing in low light. It also supports conversion lenses and an underwater case (●●●●½; July 2003).
COMPANY: Canon, 800/652-2666, www.powershot.com
PRICE: $399



PENTAX OPTIO 550
This compact 5-megapixel camera from Pentax offers a 5× optical zoom, manual exposure controls, unique digital color filters, and a great battery life—considering how small it is. (Look for a full review in an upcoming issue.)
COMPANY: Pentax, 800/877-0155, www.pentax.com
PRICE: $600

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lem is that this feature also has a tendency to shift the *colors* in your image—and not necessarily for the better. Not to worry. You can prevent this by choosing Fade from the Edit menu immediately after adjusting Levels. In the Fade dialog box, set the Mode pop-up menu to Luminosity. (If you used an adjustment layer to change your Levels, set the blending mode in the Layers palette to Luminosity.) Keep in mind that the Fade command works only immediately after you've applied an adjustment, so make sure you don't do anything else before setting it.—BW

Get Rid of Noise

Digital cameras are notorious for creating images that contain colorful noise—bright specks that make photos appear mottled and distract the eye. Noise is especially common in conditions of low light and high ISO settings. Although it's difficult to remove noise completely, you can often reduce the appearance of these colorful specks by using the Gaussian Blur filter (Filter: Blur: Gaussian Blur).

Move the Radius slider to the right until the noise blends into the image. Don't worry if your image begins to look blurry—we'll fix that. Immediately after applying the filter, choose Edit: Fade and change the pop-up menu from Normal to Color. That should bring back the detail in your image while making any remaining noise match the color of the surrounding image.—BW

Brighten Bland Colors

If your image's colors are a little dull, you can give them a quick boost by adjusting the saturation levels. In Photoshop or Photoshop Elements, press ⌘-U to open the Hue/Saturation dialog box. Move the Saturation slider toward the right to make the image more colorful. But be careful: some colors may start to look artificially bright before others have reached their full potential. When this happens, choose a color from the Edit pop-up menu at the top of the dialog box (even if the color you're looking for isn't listed) and then click on the problematic color within your image. Now move the Saturation slider back toward the left to mellow out just the color you selected (see "Colors of Spring").—BW

QUICKER CROPPING

Digital images have a different aspect ratio than film images. This means that if you want to print them at standard sizes (to get 4-by-6- or 5-by-8-inch prints, for example), you'll need to crop them first.

Cropping isn't difficult, but it can be tedious work—especially if you're preparing a large batch of pictures that all need to have the same dimensions and resolution. Thankfully, there's a way to speed up this process in Photoshop and Photoshop Elements.

With the Crop icon selected in the Tools palette, take a look at the Options bar along the top of your screen. (If it's not there, open the Windows menu and select Options.) You should see three fields labeled Width, Height, and Resolution. By setting these, you can *constrain* the tool so it crops to the exact same dimensions every time you apply it until you clear the settings.

For example, imagine you're creating a Web page in which you want all the images to be 400 pixels wide and 300 pixels tall at 72 pixels per inch. Type 400 px, 300 px, and 72 into the Width, Height, and Resolution fields, respectively. Click and drag the Crop tool across your image to select the area you want, and click on OK. The program will automatically scale down your cropped image to the size and resolution you entered. And since your Crop tool will remember these dimensions for every image you open until you reset it, you'll be able to whip through that folder of pictures in a fraction of the time it used to take.—DERRICK STORY



Constrained Crops Enter the settings you want to use for your cropping, and Photoshop will apply them every time you use the tool until you erase them by clicking on the Clear button.

Sharpen Fuzzy Images

Almost every digital photograph you take will benefit from sharpening. The trick is to apply enough filtering to create a clean, crisp image but not so much that it appears edgy and, well, digital-looking.

continues



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Colors of Spring In the original image (left), the sunflowers appear dull and flat. By boosting the saturation (center), I got richer yellows but unnatural green tints. To compensate, I then lowered the saturation in just the green areas (right).

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GET BETTER GRAYSCALE



SVEN WEIDERHOLT

Simple Elegance With a little experimentation, you can turn a color photo into a richly textured black-and-white image.

Black-and-white images have a grace and beauty that's hard to match. However, if you convert color photos by simply selecting Photoshop's Grayscale mode, you may not be getting the best images you can.

When you convert to Grayscale mode, Photoshop mixes the red, green, and blue channels together, weighting each one differently according to a standard formula. But in many cases, this weighting process loses more information than it keeps.

Luckily, there are many gray-scale images hiding away in any color file—some only a click or two away. Here are three different approaches to coaxing the best black-and-white images from your photographs.

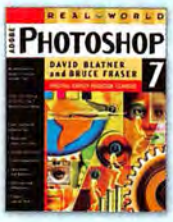
Choose a Channel One simple option is to look at the individual color channels in the image. Sometimes you'll find the perfect gray-scale image sitting in one of them. If you find one you like, you can then copy and paste it into a new document (or select Duplicate Channel from the Channel palette's Option menu and then choose New from the Document pop-up menu).

Desaturate First To get a different result, desaturate the image before converting it to gray scale. Select Desaturate from the Adjustments submenu (under the Image menu) or press ⌘-shift-U. This literally pulls the color out of each pixel in the document. At this point the image is still RGB. But if you convert it to grayscale now, you'll get a different result than if you'd simply converted it to gray scale at the start.

Mix It Up If you don't find a satisfactory image with the previous methods, try the more devious alternative: manually blend your channels to get the right mix. The process is a little more time-consuming but offers greater control over the finished image.

In Photoshop's Channel Mixer (Image: Adjustments: Channel Mixer), you mix channels by altering their percentages. To create a gray-scale image, make sure the Channel Mixer's Monochrome option is selected. This ensures that the image will be neutral gray.

To maintain the overall tone of the image, make sure that the percentages in the dialog box always add up to 100 percent. (Of course, there may be situations where you don't *want* to maintain the overall tone of the image.) We wish there were a way to constrain the percentages in this way, but unfortunately, you'll have to do the math.



Rather than applying the effect directly to an image, we prefer to use the Channel Mixer on an adjustment layer (Layer: New Adjustment Layer: Channel Mixer). This way, if you need to adjust your image later, you can just double-click on the adjustment layer's tile in the Layers palette and refine the Channel Mixer settings.—DAVID BLATNER AND BRUCE FRASER

This article is an excerpt from *Real World Adobe Photoshop 7* (Peachpit Press, 2002), by David Blatner and Bruce Fraser. You can find the book at www.peachpit.com or your local bookseller.

However, knowing *when* to sharpen your image is just as important as knowing *how* to sharpen it. Sharpening your image should be the very last step before you save the file. If you sharpen too early in the process, you'll end up having to do it again. And sharpening too often can result in image degradation.

Once you've made all the necessary adjustments to your photograph—including resizing it to the appropriate output dimensions—you're ready to apply sharpening. For photographs, this usually means turning to the Unsharp Mask filter (Filter: Sharpen: Unsharp Mask).

When you open the Unsharp Mask filter, you'll notice that the default Amount setting is 50 percent. But that's way too much! Change that to 12 percent while making the Radius setting 1 and the Threshold setting 2. These conservative settings will sharpen only the edge pixels, giving your picture more snap without adding unattractive noise. Click on OK to apply the filter, and examine the picture closely. If you need a little more sharpening, apply the filter again at the same settings. Keep applying until the picture looks clean and crisp but not over-sharpened to the point that it appears grainy. It's actually better to apply the filter three times at 12 percent than once at 50 percent.—DERRICK STORY

Make Your Subject Stand Out

If you want one area of an image to really grab a viewer's attention, tone down the rest of the image. I take a





KELLY LUNSFORD

In Focus To make your subjects really stand out from their surroundings, desaturate and blur the background.

LEARN FROM YOUR MISTAKES WITH METADATA

A big drawback in film photography is the time gap between the moment you press the shutter and when you actually see the finished print. If an image turns out great, you probably won't be able to remember the settings you used and then repeat your success in the future. And if it's a lousy photo, what do you need to do differently next time to avoid making the same mistake?

Digital photographers have an advantage here. Every time you take a picture, your digital camera records a chunk of information, called *metadata,* in the picture file. Valuable details such as time, date, shutter speed, aperture, ISO, flash, white balance, metering pattern, focal length, and more are captured right along with the image itself.

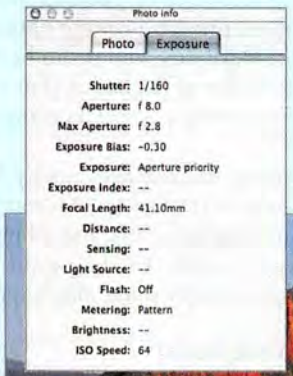
You can view metadata in image editors such as Photoshop or Photoshop Elements via the File Browser (in the Windows menu) or in iPhoto by selecting Show Photo Info from the File menu (⌘-I). By looking at what your camera's settings were when you took a photo, you can determine what to change—or repeat—when you're in a similar situation.

To see what you can learn from your metadata, consider this picture of Cathedral Rock, in Sedona, Arizona (see "Room to Improve"). It's a decent enough shot, but when I reviewed it closely on my PowerBook, I noticed a few things that bothered me. The picture isn't as sharp and detailed as I like landscapes to be. Also, the lighting is a little harsh. To see why, I opened Show Picture Info in iPhoto 2.

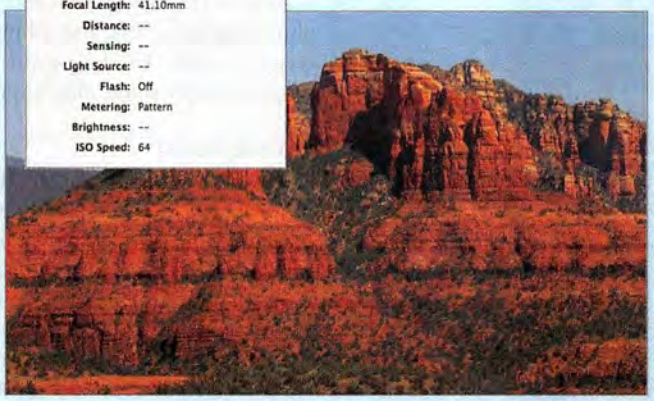
First I clicked on the Exposure tab (see "Behind the Scenes"). At a quick glance, everything looks pretty good. I used a decent shutter speed, middle aperture for good depth of field, and . . . ah, there's the culprit: look at the Focal Length setting: the camera was zoomed out to 41.10mm. I know that the optical zoom on this particular Olympus goes only to 21.3mm. That means I must have activated the digital zoom to extend my range. A digital zoom isn't a true zoom—it just enlarges the pixels without capturing more detail. I activated it, and I paid the price: I lost image quality. Next time, I'll stick with the optical zoom and crop the photo to give the appearance of being closer, without inadvertently softening the picture.

I also checked the information under the Photo tab. There I see that I shot the picture at 2:45 p.m. That would explain the unpleasant shadows. (That's not exactly sweet light for landscapes.) If I'd returned to the exact same spot just a few hours later, I could have gotten a more dramatic image and still a good light angle.

This kind of analysis can help you better understand your shooting technique and, in the long run, help you improve the quality of your pictures.—DS



Behind the Scenes The Exposure tab in iPhoto's Picture Information window reveals the camera settings at the time of exposure. Here I see that I used a digital zoom for this image, which explains why it's fuzzy.



DERRICK STORY

Room to Improve This photo of Cathedral Rock isn't bad, but it could be better. Studying the metadata helped me understand how to come away with an improved shot next time.

two-pronged approach to this; first, I wash out some of the color; then I blur the background (see "In Focus").

To remove color from the less important areas of your photograph, create a new layer (Layer: New: Layer) and change the blending mode at the top of the Layers palette from Normal to Saturation. Select a brush from the Tools palette, set your foreground color to black, and paint over the areas of the image you want to desaturate. Make sure that your brush's Opacity and Flow options are set to 100 percent. After you've removed the color from the background, use the Opacity slider in the Layers palette to let just a hint of the original color show through.

To make the same area slightly blurry, press the ⌘ key and click on the title of the layer you created in the first step. Photoshop will turn the area you painted into a selection. (Press ⌘-H to hide the selection outline if it's too distracting.) Now click on the bottom layer in your image (the one that contains the original photo), and choose Filter: Blur: Gaussian Blur. Experiment with the Radius setting until your main subject separates nicely from the now-blurry background.—BW

REMOVE UNWANTED COLOR CASTS





What looks white to you may look blue or pink to your camera. While the human eye can compensate quickly for differences in light, cameras tend to be more literal. But you can easily get rid of these unwanted colors and return whites to their true color in Photoshop. To do this, you use levels to neutralize the white, black, and gray pixels in your image.

For a step-by-step guide that will show you how to cast out troublesome tints from your digital images, go to www.macworld.com/2000/10/bc/howtocolor.

PRINT YOUR PHOTOS

GET YOUR DIGITAL PICTURES OUT OF YOUR MAC AND INTO THE SPOTLIGHT

After putting a lot of effort into enhancing your images, you'll want to show them off. Paper prints may not be cutting edge, but sometimes you want physical photos. There are two ways to transform your digital files into prints: by sending them to an online printing service or by printing them on your own ink-jet photo printer. Printing photos yourself gives you more flexibility, and it can be fun—once you've mastered a few of the basics. (For our take on the best printing services, see "Choosing an Online Photo Service.")

Ink-jet printing has reached quality levels that rival, and in some ways surpass, conventional wet-darkroom photographic prints. But all photo printers aren't created equal. To choose the one that's right for you, just answer some simple questions:

What Size Do You Need?

Ink-jet photo printers range from small, desktop-size models that handle letter-size paper, to the somewhat larger tabloid-size (11 by 17 inches) and Super-B-size (13 by 19 inches) models, to floor-standing models capable of producing prints as wide as 44 inches. Most of us are fine with letter-size printers. Digital captures from 4-megapixel cameras make beautiful 8-by-10-inch, or sometimes larger, prints. But there's no need for a machine that makes 40-by-60-inch prints unless your image can be reproduced at that size without looking terrible.

What Resolution Do You Need?

Photo-printer resolution is an almost meaningless specification. A 1,440-by-2,880-dpi printer won't necessarily produce finer detail than a printer with a 1,200-by-2,400-dpi resolution. The numbers refer to the accuracy with which printers lay down a dot of ink. The more important consideration is the minimum size of that dot.

Look for droplet sizes of 4 picoliters or less for good photographic output. Droplet size relates directly to highlight detail: the smaller the droplet, the better the range of tones the printer can produce in the highlights. Most ink-jet photo printers also use light cyan and light magenta inks to give the illusion of smaller dots; this makes your prints look more like traditional photos. These types of printers are usually referred to as six-color printers, and they're your best bet.

There's another reason a printer's resolution isn't the sole indicator of its performance: You can make great prints from fairly low-resolution images. Just because a printer has a resolution of, say, 1,440 by 720 dpi doesn't mean you should send it a 720-pixel-per-inch file. Printer dots and image pixels are very different animals, so there's rarely a reason to use resolutions higher than 360 pixels per inch, and you can often obtain very good results with fewer.

What Kind of Inks Do You Want?

Some photo printers use dye-based inks, while others use pigments. Both types typically cost about the same, but each has advantages and disadvantages.

Longevity The main benefit of pigment-based inks is longevity. On the right paper, pigment-based prints will last 80 to 100 years in reasonable display conditions under glass (compared with around 85 years for the best film prints). Dye-based inks are much more fleeting, with life spans as long as 25 years or so.

Dye-based inks are also more vulnerable than pigments to airborne contaminants that often attack one ink color more than the others, resulting in a sudden

OUR FAVORITE PHOTO PRINTERS

If you're looking to start your own digital darkroom at home, a good photo printer is essential. The printer market changes at a fairly rapid pace as companies race to keep up with new technology. The upside to all this turnover: prices drop as quality improves. The downside: the field of contenders is vast, and the differences between printers aren't always obvious.

Here's a quick look at three current six-color ink-jet printers that we especially like. Because different people value different features in photo printers, we've selected a range, with prices from $199 to $699, so you can find one that fits your specific needs.



EPSON STYLUS PHOTO 2200
This impressive printer produces a good range of colors and fine details, but it's pricey (★★★★½; October 2002).
COMPANY: Epson, 800/463-7766, www.epson.com
PRICE: $699



EPSON STYLUS PHOTO 900
This printer can produce borderless prints as large as 8.5 by 11 inches—or print on CDs and DVDs (★★★★; August 2003).
COMPANY: Epson, 800/463-7766, www.epson.com
PRICE: $199



CANON i950
This photo printer has an impressively small droplet size—two picoliters—and individual ink cartridges.
COMPANY: Canon, 800/652-2666, www.usa.canon.com
PRICE: $249

color shift rather than a general fading. You can avoid this by keeping your prints mounted under glass or in archival sleeves, but if you're unwilling to do that and you're concerned about longevity, pigments may be a better choice.

Color Range Dyes produce a wider range of color, and sometimes denser blacks, than pigments, so your prints sometimes offer a more faithful reproduction of the original. (For more about accurate color, see "The Color Gamble.") Prints from dyes also don't suffer from the gloss differential that can plague pigment-based prints: pigment inks, especially on glossy paper, can produce an effect where heavily inked areas have a different surface reflection than the less-inked areas. But you can largely eliminate the effect by framing the prints under glass.

Third-Party Inks Most printer manufacturers recommend that you use only their inks. You may be tempted to use inks sold by other companies, either because they're cheaper or because they offer some desirable quality the vendor-supplied inks lack. Plenty of people use third-party inks successfully every day, but you shouldn't assume that every ink works in every printer. (Epson's ink cartridges, for example, contain an embedded chip identifying them as Epson cartridges, so third-party inks don't function unless vendors refill Epson cartridges or clone the chips.) And by using third-party inks, you may void the manufacturer's warranty. The inks may also cause problems such as persistent clogging of the nozzles, and they may contribute to the premature demise of your printer.

What Else Do You Need?

Some photo printers let you pop your digital-camera media into a built-in card reader on the printer and make prints without using a computer. The convenience is appealing, but you do give up control, with no opportunity to correct color, crop, and so on. Other extras include printing directly on CDs, and borderless printing. Only you can decide whether these features are worth the higher price that may come with them.

What's the Cost per Print?

Bear in mind that the cost of buying a photo printer is dwarfed by the cost of owning one—essentially, they're ink delivery systems, and the inks and papers cost much more than those for general-purpose use. So factor the per-print cost (printer companies usually list these on their Web sites) into your buying decision. Price differences in the printers themselves can be relatively trivial.

What Papers Do You Want?

Your buying decisions don't stop with a printer. You may also want to experiment with specialty papers. Different surfaces yield very different results. Glossy papers tend to provide brighter colors and more contrast, while matte-finish papers can produce more pastel-like colors. This is due to the way the papers absorb and disperse the ink. With looser-weave papers, such as watercolor and handmade papers, your images might start to take on more of a painterly look as colors bleed together and trace the grain of the paper. Many printer manufacturers sell watercolor and other fine-art media; art supply stores are another source of unusual types of paper.

Keep a couple of things in mind as you experiment with papers. Your printer probably has a maximum thickness specification (look in the documentation that came with the printer). Feeding papers thicker than that specification through your printer could smear your print and even damage the printhead. Though most papers meant for printers list their thickness, specialty or handmade papers may not. You'll have to visually compare art paper with paper of known thickness to stay in the safe zone.

Even if they're the right thickness, slick or varnished papers—the type used for paperback book covers—may not work in your printer because the ink won't adhere to the slippery surface. These prints may look fine coming out of the printer, but they may never dry.

Whatever paper you choose, you'll have to make color adjustments by trial and error. So plan on buying a big stack.—BRUCE FRASER AND BEN LONG

continues on page 69

THE COLOR GAMBLE

Your photos of the Grand Canyon didn't turn out to be quite the artistic masterpieces you envisioned. So you labor long in an image editor, fixing problems and framing shots, and everything looks perfect—until you send the images to your printer. Why don't prints look like what you see on screen?

Getting a match between your monitor and what comes out of your printer is difficult for a couple of reasons. Monitors often display colors incorrectly; for example, a pinkish-white flower may have a bluish cast on screen. What's more, monitors can display colors that no printer can reproduce.

There are ways to tweak your monitor and printer so that you're rarely surprised by your prints. For the greatest color accuracy, you'll have to invest a few hundred dollars and significant effort. But in the meantime, you can take a few steps that will get you a little closer to more predictable color.

First, visually calibrate your monitor to put it as close to neutral as possible. In OS X, you can calibrate by going to System Preferences: Display: Color. In the Display Profile menu, either choose the name that matches your monitor or, if that's not an option, choose sRGB Profile. Then click on Calibrate and follow the instructions.

Next, set your image editor to a default color space of sRGB. In Photoshop, go to Photoshop: Color Settings. In the Settings drop-down menu, pick Web Graphics Defaults. In Elements, go to Photoshop Elements: Color Settings and choose Limited Color Management.

Finally, tell your printer how to convert your digital camera files to your printer's color space. In your image editor, choose Print. In the Copies & Pages drop-down menu, look for a Color Control or Color Management option. The exact location and wording differs among printers, so you may have to dig a little. Once you've found the Color Control or Color Management option, choose ColorSync or Automatic. Then you can click on Print as you would normally.—MACWORLD STAFF

More Info:

There's much more to learn about color matching. The following resources will help:
Apple (www.apple.com/colorsync)
creativepro.com (www.creativepro.com/category/home/231.html)
InkjetMall (www.inkjetmall.com/store/cm/color-management.html)
Macworld (www.macworld.com/2001/04/bc/howtocolor)

CHOOSING AN ONLINE PHOTO SERVICE

If you don't want to print your digital photos yourself, there are plenty of online services that will print your images on high-quality photo paper and mail them to you. To see how these services stack up, I ordered prints from 14 competitors—AnyTime Photo, Club Photo, dotPhoto, eFrames, EZ Prints, ImageStation, iPhoto, Kodak Picture Center Online, Ofoto, PhotoAccess, Photo Center, PhotoWorks, Shutterfly, and Snapfish—and compared their features, prices, and print quality. Although many of the results echoed the findings from previous tests (see "Turn Pixels into Prints," June 2002), there were a couple of surprises.

Uploading Your Files

For getting digital images from your Mac to the company's server, Apple's iPhoto software offers the simplest solution. Once you import your pictures into iPhoto and set up an Apple account, you select as many photos as you want and click on the Order Prints button; the application takes care of everything else.

Handing over your images to any of the other services requires a few extra steps. All of the services (aside from iPhoto) let you upload photos through a Web browser. But because there are limitations on the number of files you can upload at once—and, in some cases, file-size limitations—I recommend using a service that lets you upload images through a dedicated application. This lets you do much of the work on your desktop and then upload the entire batch in one step. PhotoAccess, Shutterfly, and Club Photo all provide uploading software. Of the three, PhotoAccess stands out with its PhotoStreamer software, which can not only upload pictures from iPhoto but also download images directly from your camera. PhotoStreamer and Shutterfly's SmartUpload software are compatible with OS 9 and OS X. (Club Photo's PhotoDrop is OS 9 only.)

ImageStation lets you either use its browser plug-in to drag and drop an unlimited number of files for upload or attach photos to an e-mail message. If you have a slow connection, you may appreciate the ability to queue a message and send it at a time when you don't need the bandwidth for other purposes. In addition to an e-mail option, dotPhoto lets you upload files via FTP.

Editing Images

I don't recommend relying on any online services for extensive image editing. That said, ImageStation, iPhoto, Ofoto, and Shutterfly give you the most editing choices, including options to fix red eye, sharpen, adjust brightness, and add effects such as tints and borders. And you'll definitely want to take advantage of cropping tools. Digital images are larger than film images, so you should crop out the extra space before you have the images printed on traditional paper sizes. If you don't, you may receive unexpectedly cropped prints, or prints that sport unattractive white bars. iPhoto's cropping tools (which you can use even if you print from another service) include preset ratios for common print sizes such as 4 by 6 inches and 5 by 7 inches.

Print Quality

Of course, the most important criterion for any online service is the quality of its prints. A panel of *Macworld* jurors judged a set of eight prints from each service, measuring detail, color accuracy, noise, and more. Each juror chose two favorites.



JUSTIN WOLFF

Seeing the Difference Think all photo services are equal? Here is the same print from Club Photo (left) and PhotoAccess (right). Club Photo blew out a lot of valuable detail in the sand.

PhotoAccess, Ofoto, PhotoWorks, and Shutterfly all made it to the top of the panel's A-list. PhotoAccess received the highest score. Despite a slight red tint in skin tones, it maintained excellent shadow detail without blowing out lighter areas. Ofoto also scored well; three of the five jurors voted it their favorite. (Interestingly, iPhoto didn't score as well as Ofoto, though both use the same service.)

PhotoWorks showed a sharp improvement since our last look at online services. Its prints retained detail without washing out, and they showed none of the problems with over-sharpening that we noticed last time. Several jurors also lauded the accuracy of the Shutterfly prints.

Although they didn't have serious flaws, prints from iPhoto and EZ Prints were knocked out of the top positions due to muddy details and some problems with noise. Prints from Club Photo and ImageStation had noticeable vertical lines, almost as if they'd been printed from a low-quality ink-jet. Photos from AnyTime Photo, eFrames, and Snapfish all suffered from significant noise.

The jury was unanimous, however, in voting prints from WalMart's Photo Center as the worst of the lot. The photos showed way too much contrast, and they were the noisiest of the bunch.

Ordering Prints

All of the services offer standard print sizes such as 4 by 6, 5 by 7, and wallet size. But if you want something a little unusual, EZ Prints has a particularly wide selection of sizes. PhotoAccess can also produce slides.

Our Choice

With its easy-to-use OS X application and excellent print quality, PhotoAccess is a solid choice, although a volume discount to offset the relatively steep price would be welcome. Ofoto, PhotoWorks, and Shutterfly are also fine options. Shutterfly lets you print captions on the backs of photos, which can help you identify images now and years later. If you print a lot of photos, PhotoWorks' price ($0.29 for a 4-by-6 print) is an enticing offer. PhotoWorks also gives you the option of archiving your prints on Photo CDs and DVDs.—TERRI STONE

Top Online Photo Services

SERVICE	URL	UPLOAD OPTIONS	EDITING TOOLS	Output Options (dimensions in inches) MATTE FINISHING	3 × 5	4 × 6	5 × 7	8 × 10	12 × 18	SET OF 4 WALLET PHOTOS
Ofoto	www.ofoto.com	Web form	instant fix, crop, red eye, black-and-white, sepia, tints, borders	no	N/A	$0.49*	$0.99*	$3.99	N/A	$1.79
PhotoAccess	www.photoaccess.com	OS 9 and OS X applications, Web form	rotate, crop (with centering options)	yes	$0.39 (3.5×5)	$0.45	$0.95	$3.49	$11.95	$1.49
PhotoWorks	http://photoworks.com	Web form	rotate, sepia, black-and-white	no	$0.29	$0.29	$0.99	$2.99	N/A	$0.99
Shutterfly	www.shutterfly.com	OS 9 and OS X applications, Web form	red eye, crop, rotate, black-and-white, color tints, saturate, soft focus, borders	no	N/A	$0.49*	$0.99*	$3.99*	N/A	$1.79

N/A=not applicable. *Volume discount available.

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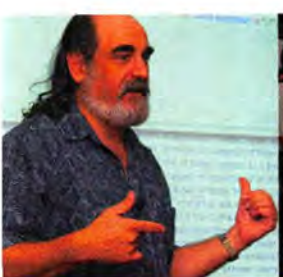
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See ad on page 85

ORGANIZE YOUR PHOTOS

HOW A PROFESSIONAL PHOTOGRAPHER KEEPS IT TOGETHER WITH iPHOTO

continued from page 65

I've taken roughly 10,000 digital photos in the past year alone—and each and every one of them was organized, tracked, and archived with iPhoto. I'm not kidding. Apple's digital shoe box is far more powerful than most people give it credit for. In fact, once you know how to maximize iPhoto's capacity, this free, easy-to-use program quickly becomes a full-fledged image-management system.

Secrets of the iPhoto Library The first time you launch iPhoto, the program creates the iPhoto Library folder in your Pictures directory (Users: *your user folder*: Pictures: iPhoto Library). This is where it stores all of your images. iPhoto is very particular about how it organizes information, so it's best not to go into the folder and play around. You just need to know *where* it is.

Your iPhoto Library folder isn't a bottomless hole. As you add pictures, the size of your library grows until it eventually hits the limit of what your Mac can manage. This can slow iPhoto's performance to a crawl.

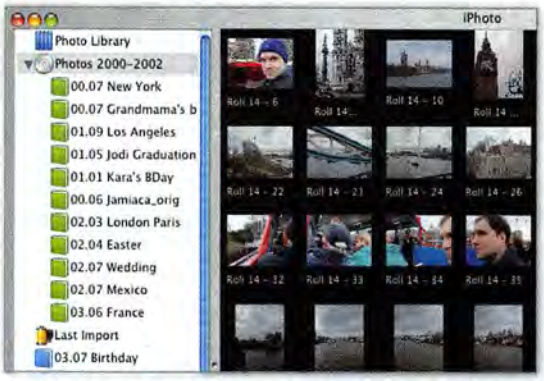
The goal, then, is to keep the size of your iPhoto Library manageable while also having all of your photos at your fingertips.

You may not realize that you can have more than one iPhoto Library. This fact, combined with iPhoto 2's new Burn feature, makes it possible to create an entire catalog of iPhoto libraries—each small enough to keep iPhoto running smoothly. Once one library reaches the capacity that you've deemed proper for your Mac, you can stop adding to it, back it up to optical media, and create another. As your image library grows, so will your media library.

Managing the Size of Your Library Folder For this process to work, you'll need to limit the size of your iPhoto Library to what you can comfortably back up onto optical media. A general guideline is 640MB for CDs or a couple of gigabytes for DVDs—depending on how much processing power your computer has.

You can monitor the size of the iPhoto Library from within iPhoto by clicking on Photo Library in the top left corner and reading the data display located beneath the column. Make sure no individual photos are selected when you do this, or the data will reflect the size of that image, not the entire library.

Once your library reaches its maximum size, you're ready to burn it to a CD or DVD. While you're in Organize mode, click on Photo Library and then click on the Burn icon in the lower right corner of the window. When prompted, insert a blank disc. A disc icon will appear with the description "iPhoto Library" and the date. Change that name to a more useful title—something that will help you identify what's on the disc.



Double Your Library When you insert an optical disc into your Mac, iPhoto displays your archived image library—complete with individual albums—just beneath your existing Photo Library.

Lastly, click on the pulsating Burn button to transfer the library to disc. You should burn at least two discs for each iPhoto Library—one for everyday use and another to be stored off-site for archival purposes.

When the process is finished, iPhoto will automatically eject the disc. Your entire iPhoto Library is now safely backed up to optical media.

Access Images from Burned Discs To access the pictures on your new CD or DVD, just insert the disc into your computer. iPhoto will automatically launch and display the archived library right below your existing iPhoto Library. Click on the triangle next to your new library to reveal all of your custom albums. In fact, the only thing you'll lose in this process is the name of individual film rolls. (This bug should be fixed in an upcoming iPhoto update.)

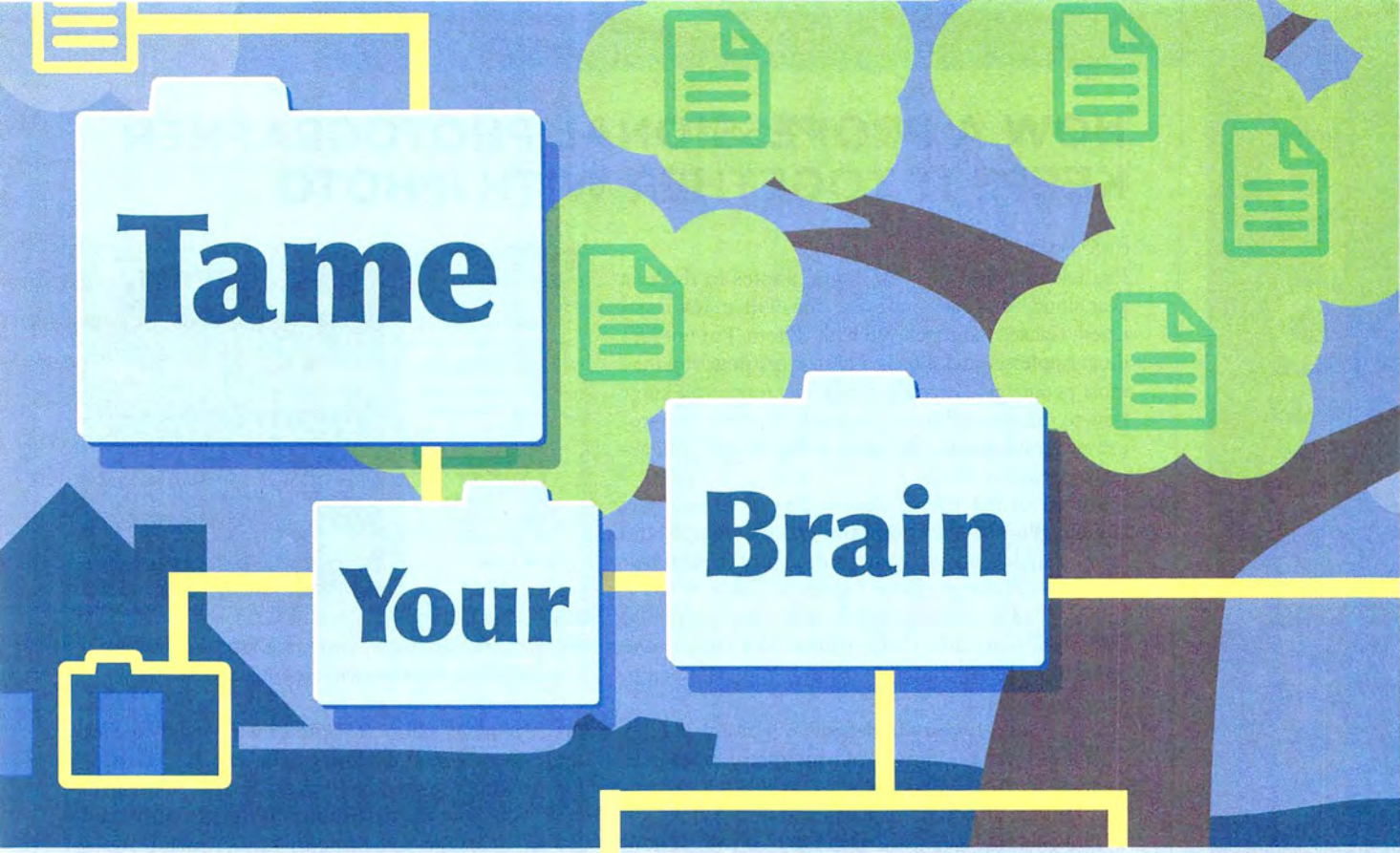
Take a moment to verify that all of your images are safely on the disc. Then eject it and quit iPhoto.

Create a New Library Make sure that iPhoto isn't running. Go to your Pictures directory, drag your iPhoto Library folder to the Trash, and then empty the Trash. (Remember, you've already verified that this library is safe and sound on at least two optical discs.) Now launch iPhoto. When it asks whether you want to create a new library, click on Yes. iPhoto will place a new iPhoto Library in your Pictures directory. You can add new pictures to it until it's full. Then you can start the process all over again.

Keep Track of Your Disc Once you have a few iPhoto Library CDs or DVDs stored away, you can use a CD cataloger to help keep track of what's on each disc. Nobert Doerner's CDFinder ($25; www.cdfinder.de), for example, lets you search through all of your discs by keyword.—DS

▼ NO BURN? NO PROBLEM

If your Mac doesn't have a CD-RW or DVD-R drive, you can still prevent iPhoto from getting bogged down—break up your photos into multiple libraries. Brian Webster's free iPhoto Library Manager utility (www.homepage.mac.com/bwebster/iphotolibrarymanager.html) lets you organize your photos into a number of separate libraries, share libraries with other users, and switch easily from one library to another—even if the libraries reside on external FireWire drives. Plus, each library can have its own set of preferences and permissions.—DS

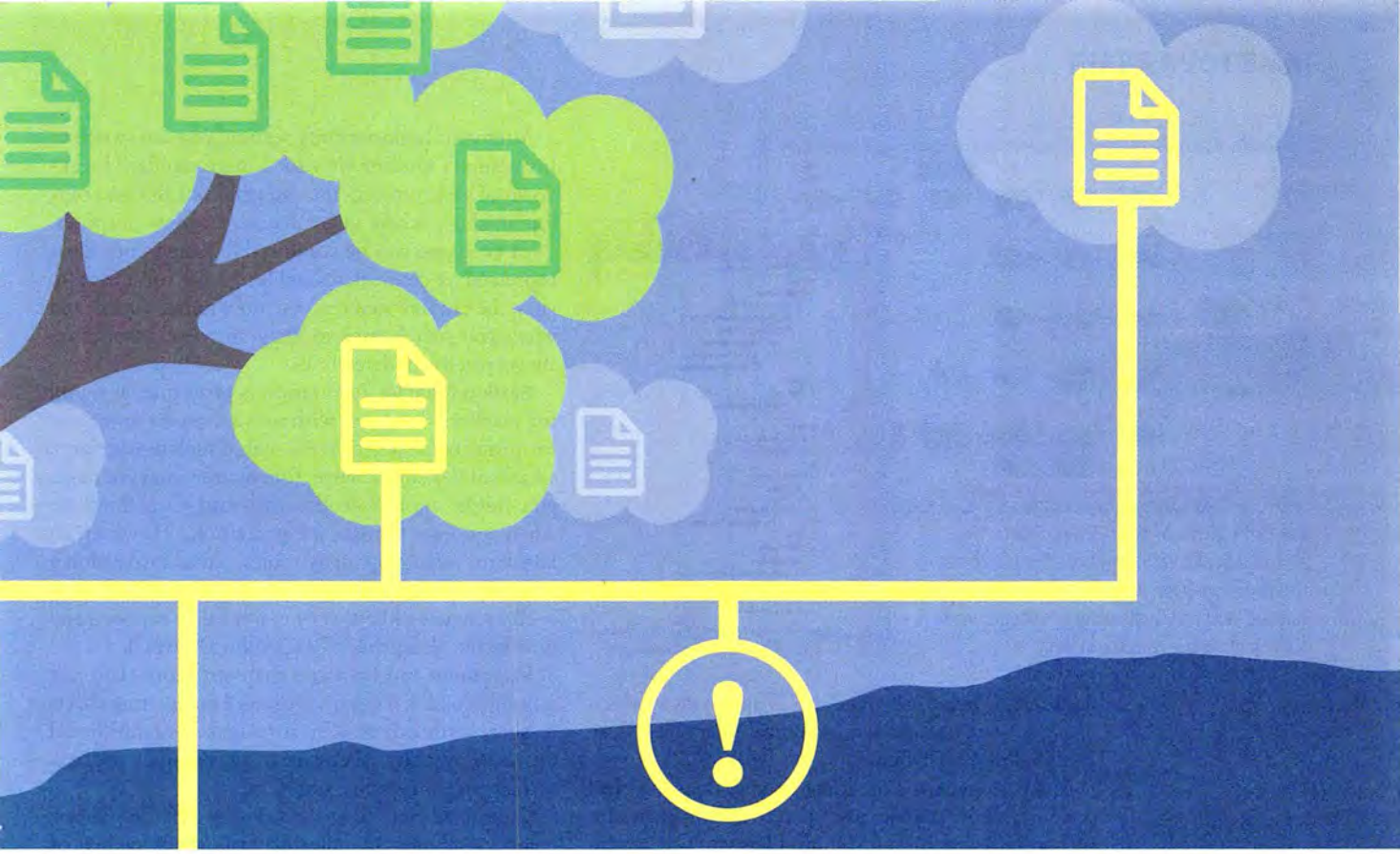


Four Programs Help You Organize Your Ideas in Surprising Ways

BY KIRK McELHEARN

Your report's deadline is looming, and you have lots of ideas but no structure. Or you've finally traced your ancestors all the way back to the *Mayflower,* but you don't know how to organize the names, dates, and pictures you've gathered. Or perhaps you've got to get a FAQ list online before a major product launch, but you just can't decide how to order the questions.

ILLUSTRATION BY JOHN FARNSWORTH



We've been conditioned by computers to think of information and ideas as being linear: a text file runs from beginning to end; a spreadsheet starts at cell A1 and ends, after a number of rows and columns, when there is no more data. But our brains don't work that way. Instead, they collect and store information as an amorphous mass, so it's not surprising that organizing ideas can be daunting.

Luckily, there are several programs that can help you in many ways. They're designed for traditional outlining or flowcharting, but the possibilities don't stop there. With a little imagination, you can use these programs in unexpected ways—to organize ideas in lists or presentations, design simple databases, create graphics and diagrams, and even develop and maintain Weblogs and FAQ (frequently asked questions) lists.

Some of the most popular programs for organizing ideas are Inspiration Software's $69 Inspiration 7 (version 7.5 should be available by the time you read this), The Omni Group's $30 OmniOutliner 2.2.2 and $120 OmniGraffle 3.0.1 Professional (a $70 Standard version is also available), and Eastgate Systems' $145 Tinderbox 1.2.3. (See "4 Tools for Organizing Your Ideas" for details.) These programs are very different, so I'll focus on how each can best help you effectively communicate your ideas.

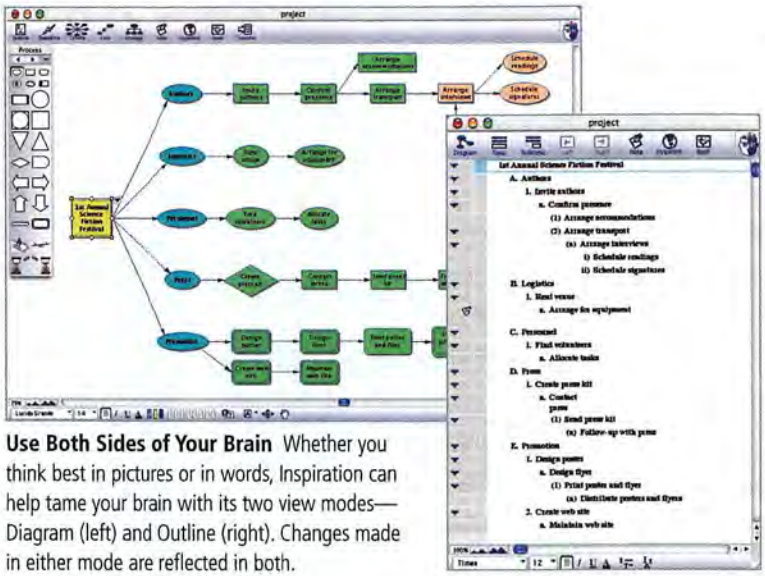
The Outlining Powerhouse

You probably know how to outline by organizing ideas and thoughts in a numbered hierarchy, such as A, A1, B, B1, B2, and so forth. Text outlines are one way to organize ideas, but concept maps are another. In a concept map, graphics represent and contain ideas. You lay out the graphics across a page and link them with lines. In a family tree, for example, your relatives and ancestors could be represented by apples connected to branches that grow from a central trunk.

How Inspiration Works Although it's not the only program with outlining capabilities—OmniOutliner and Tinderbox have them, too—Inspiration (★★★★½; March 2003) is easy to use and gives you two ways of working: in an Outline view—in other words, a stan-

16 Cool Ways to Use Outliners

- Draw a family tree
- Brainstorm your novel
- Make a flowchart
- Lay out an organizational chart
- Prepare a presentation
- Plan your report
- Model your network
- Work out a lesson plan
- Maintain a FAQ list
- Create a concept map
- Organize your CD collection
- Set up a Weblog
- Develop a project
- Store notes and text snippets
- Map a Web site
- Design a garden



Use Both Sides of Your Brain Whether you think best in pictures or in words, Inspiration can help tame your brain with its two view modes—Diagram (left) and Outline (right). Changes made in either mode are reflected in both.

dard textual hierarchy—and in a Diagram view, which displays your outline as a graphical chart (see "Use Both Sides of Your Brain").

Many people avoid outlining because they don't feel comfortable fitting lots of disparate information into such a rigid structure. Inspiration lets you brainstorm in its Diagram view, so you can add ideas without putting them in any special order. You start by typing the words and phrases as fast as they come to you—press enter after each idea, and Inspiration turns it into a new topic in its own chart item.

You can then start linking the topics together. Draw lines from one to another, and Inspiration creates a hierarchical relationship. You can add, change, and remove links—developing relationships that may appear only as the organization process advances—to gradually compose your disorderly thoughts.

To clarify your ideas, you can add notes of as many as 4,000 words to any item—very handy when you want to approach your subject from different angles. Add notes as you think of them, jumping from topic to topic. You can keep fleshing out your text like this; the notes stay attached to their chart items as you move the items around. This lets you reorganize your topics and the text associated with them at the same time.

After your brainstorming session, you can switch to Inspiration's Outline view for a more standard breakdown of your project. You can print out this text outline to show others or to share for review purposes. (Not everyone will be comfortable seeing your ideas expressed as connected bubbles.) Like the Diagram view, the Outline view lets you move items around, and when you switch back to Diagram view, Inspiration shows you the updated links.

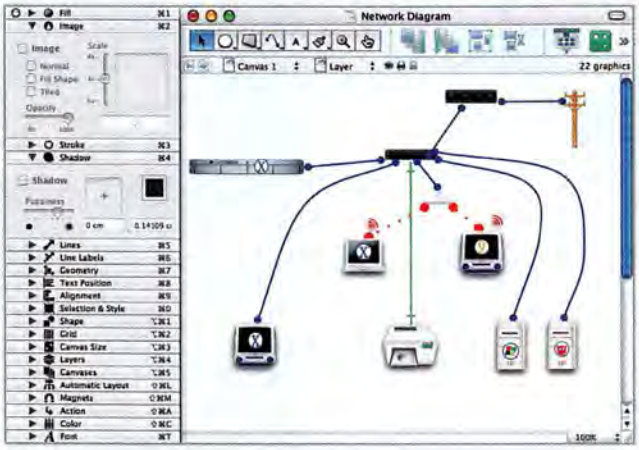
Getting Creative Inspiration is promoted as a tool for teachers. It comes with more than 60 templates for projects in subject areas including language arts, social studies, and science. (No matter what your age, you might appreciate the Pro And Con template when you have to make a big decision.) However, its knack for managing many topics makes Inspiration a natural tool for outlining written projects of all sizes, such as articles like this one, quarterly reports, and novels (see "Inspiring a Best-Selling Novel").

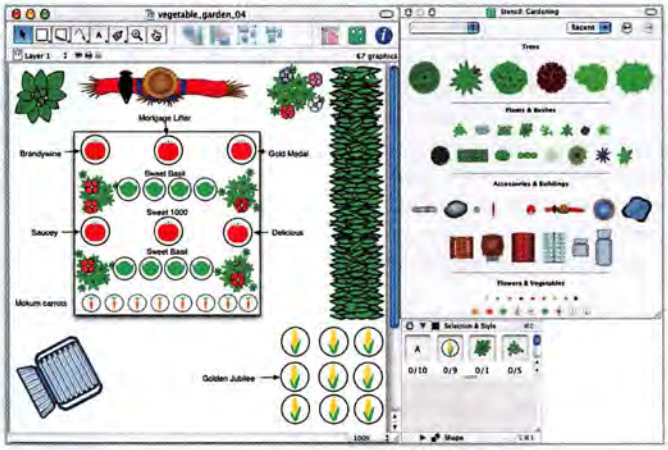
Inspiration can help you map out more than just writing projects; it's also a great tool for creating charts to share with others. Use it to make organizational charts, flowcharts, Web-site maps, complex project-management diagrams, and more.

Customize your chart by choosing different shapes, colors, or graphics to indicate specific items, people, or companies. To jazz up your documents, you can use your own graphics in GIF, JPEG, or PICT format—for example, you could enhance your family tree by adding pictures of your ancestors, along with biographical information in attached notes. Or use any of the more than 1,300 built-in images, arranged in symbol libraries such as Animals, Geography, Technology, and Science. A lot of these images are geared toward kids—you might not find much use for puppies or a unicorn—and the quality varies from clip-art drawings to medium-resolution photos. You can export diagrams in PICT, GIF, or JPEG format, which is sufficient for presentations and simple documents.

Inspiration's outlining capabilities are among the best available, and its flexibility makes it useful for many projects. But if you want more advanced control over the look of diagrams and charts—to design an organizational chart or flowchart that really stands out, for example—OmniGraffle outshines Inspiration.

Show Others What You Mean When you need to communicate complex ideas to others, use OmniGraffle to make a chart or diagram that stands out. I made this network topology diagram (left) and garden plan (right) using the program's many stencils.





The Graphics Guru

When it comes to presenting complicated information, sometimes the old cliché is true: a picture is worth a thousand words. An organizational chart or office-layout diagram can make complex structures clear and explicit, just as a network topology chart for hooking up a company's computers is easier to understand than a list of instructions.

How OmniGraffle Works OmniGraffle (★★★★½; September 2003) is a powerful tool for creating flowcharts, family trees, organizational charts, engineering diagrams, network layouts, and anything else you want to represent graphically as a set of steps or events. Its 15 built-in "stencils," or templates, for common types of diagrams make it especially suited for developing *beautiful* charts and diagrams that communicate effectively.

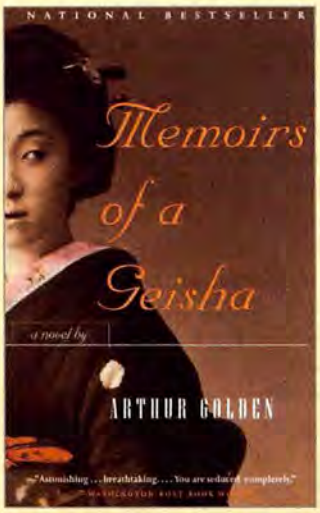
Getting Creative You can create your own stencils by importing and arranging graphics to suit your needs. But first check out the dozens of extra ones available for free at The Omni Group's Web site—just select Stencils: Get More Stencils in OmniGraffle to go to the download page. You'll find stencils for garden and office layouts, electronics, computer systems, scientific charts, and even construction projects for Legos (or *Toy Building Bricks*, as the trademark-sensitive Web site refers to them).

Stencils give you loads of high-quality graphics and designs that you don't have to come up with yourself. OmniGraffle's 20 inspectors let you adjust the tiniest details, from line thickness and color to shadows, labels, and more. The program's point-and-click interface is ideal for easily adding shapes, links, and



Arthur Golden

Inspiring a Best-Selling Novel



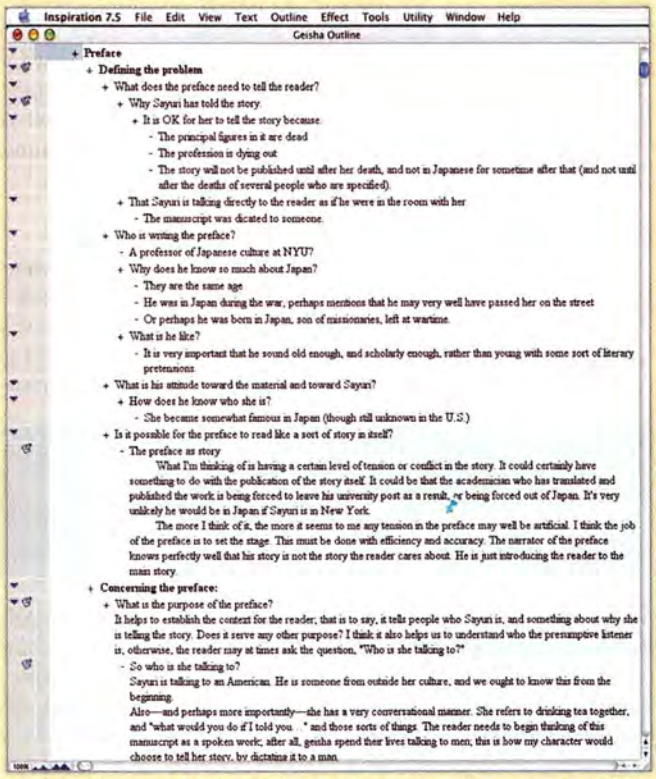
Novelist Arthur Golden is a longtime Mac user and impassioned booster of Inspiration. He even waited until there was an OS X version of the program before upgrading his operating system. He used Inspiration to create the best-selling novel *Memoirs of a Geisha* (Vintage Books, 1999)—the program helped him record his research and organize his notes. With it, he was able to juxtapose his thoughts and "bring out hidden aspects of the story."

Golden begins by brainstorming. He jots down ideas, questions he wants to explore, and thoughts about characters and events. His work calls for a great deal of research, and tiny details are important to the story's veracity. He says that using Inspiration is much better than leafing through notes on paper because the program lets him structure ideas and quickly search through what he's written. It also gives him the freedom to arrange and reorganize his thoughts at will.

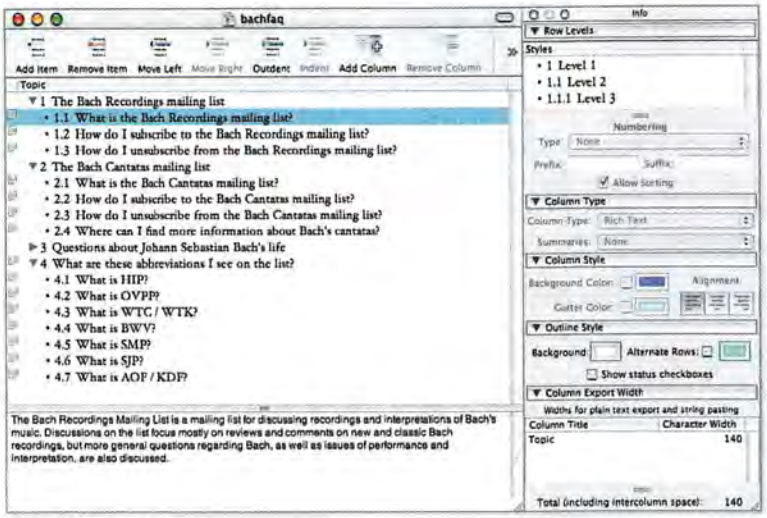
After getting the basic ideas down, Golden fleshes them out in Inspiration's Outline view (see "Peek Inside the Author's Mind"). Here he restructures his ideas, moving text around and changing the sections' hierarchy to tame his "messy thought process." Inspiration lets him jump from one idea to another, discovering relationships among different threads. He gets very detailed at this stage—the Inspiration document he created in preparation for *Memoirs of a Geisha* was more than 200 pages long. He feels that it saved him an entire draft.

Golden is using Inspiration again as he prepares his second novel, which takes place in the Netherlands and the United States in the 19th century. Again, a great deal of research is necessary to make the characters and locations come alive, and at the halfway point in the writing of this novel, he has *already* recorded almost 200 pages of notes. He says that as he works, there is a give-and-take between his Inspiration document and the actual manuscript. The Inspiration document serves as a kind of notebook to record thoughts as he moves ahead with his story.

Golden sees this program's "tremendous flexibility in organization" as an essential tool in the creative process. "I don't think I could craft something as complex as a novel without Inspiration, or some program very much like it, to help me keep track of it all."



Peek Inside the Author's Mind As he brainstormed *Memoirs of a Geisha*, Golden kept track of questions, details, and side plots in an Inspiration outline more than 200 pages long.



FAQs ASAP Updating your Web site's list of frequently asked questions doesn't have to be a hassle. If you maintain your list in an outlining program—OmniOutliner is shown here—you'll be able to rearrange questions at will, without worrying about renumbering everything. And you can export the list directly to HTML.

labels to diagrams. Just drag and drop symbols or lines from a stencil into the diagram, and then move them where you want. The program's drop shadows and antialiasing make diagrams jump off the screen (see "Show Others What You Mean").

If you need to make professional-looking graphics to use in other documents—reports, spreadsheets, or presentations, say—you'll appreciate OmniGraffle's extensive range of export formats. You can save charts as PDF, TIFF, PNG, JPEG, HTML, and PostScript files, and (in the Professional version only) as Visio XML drawings.

OmniGraffle stops at graphics. You could import text outlines from OmniOutliner, but you would have to tweak your document a lot to get it looking smart. While you have some control over how OmniGraffle applies symbols to imported documents, you really have to do most of the work by yourself. After laying out an outline in OmniGraffle, you cannot import it back into OmniOutliner.

The Versatile Text Tamer

You've got two hours to whip up a Keynote presentation about your company's new product. You've got lots of points to discuss, but don't know what order they should be in. If you're the kind of person who thinks better with hierarchical text outlines, you can use OmniOutliner (★★★★; "Mac Software Bargains," July 2002) to organize and structure these points and move them around until they're just right. Then you can export the file to Apple's Keynote format and touch up the layout. Your client will be impressed!

How OmniOutliner Works While both Inspiration and Tinderbox can create text outlines, OmniOutliner does this and *only* this—it doesn't support graphics. From to-do lists to FAQ lists, it's a powerful and flexible tool for organizing information in a linear form.

Unlike standard outlining programs, OmniOutliner provides a window with two panes (see "FAQs ASAP"). You enter a topic in the top pane and type related text in the bottom pane. The text stays linked to the topic, but the outline shows only the overall structure. (Inspiration's notes are similarly set up.) OmniOutliner goes further by letting you add columns to your outline—any topic can have additional information in columns. You could, for example, create a to-do list with topics in the main section and additional columns containing dates, times, contact information, and so on. You get to choose the type of data these columns contain: text, dates, check boxes, or even pop-up menus.

OmniOutliner bridges the gap between spreadsheets and word processors, since its multiple columns let you arrange several data fields per topic or item, and its Notes pane lets you add text that describes each topic. So if you want to organize your CD collection, for instance, you can use fields for the title, artist, and catalog number, and then you can add descriptions or your impressions in the Notes pane.

Getting Creative OmniOutliner's HTML-export feature lets you save any document as a Web page; therefore, it's an excellent way to maintain site FAQ lists or create simple Weblogs. You can manage FAQ lists with any word processor that exports HTML, but the benefit of using OmniOutliner (or Inspiration, for that matter) is that you can move questions around without worrying about renumbering everything.

OmniOutliner is also great for preparing presentations. If you've used Keynote or PowerPoint, you've probably discovered that these programs are good for making slides but aren't suited to helping you brainstorm and build a structure for your presentation.

OmniOutliner and Inspiration can help you organize your ideas before you prepare your slides, but only OmniOutliner can save files as Keynote presentations. You can work on your text in OmniOutliner, using its flexibility to move topics around, and then finish the presentation in Keynote. When you open your file in Keynote, you'll see that most of the layout is done.

You can create a presentation in Inspiration, but it can save files only in PowerPoint RTF format. When you open these files in PowerPoint, you don't get any frills—no layout other than the text and bullet points. To get Inspiration files into Keynote, you must go through PowerPoint: export them first as PowerPoint RTF files, and then save them as standard PowerPoint files that you can import into Keynote.

Take Note

Are you trying to dig out from an avalanche of random ideas? Some of the outlining and flowchart programs in this feature—with the exception of Tinderbox—might not be much help. There are, however, programs designed to store and organize notes, journal entries, and data of any kind. Jot down your project ideas or research briefs, for example, and then use these programs' search capabilities to discover links.—MACWORLD STAFF

AquaMinds' NoteTaker: www.aquaminds.com; $70 (★★★½; "More Mac Software Bargains," May 2003)

Chronos's StickyBrain: 435/615-7335, http://chronos.iserver.net; $40 (★★★★½; "Mac Software Bargains," July 2002)

4 Tools for Organizing Your Ideas

COMPANY	PRODUCT	MOUSE RATING	PRICE	OS COMPATIBILITY	CONTACT	PROS	CONS
Inspiration Software	Inspiration 7[A]	★★★★½[B]	$69; upgrades, $40	9X	800/877-4292, www.inspiration.com	Great for outlining and visual brainstorming; easy to use; lots of symbols and templates included; exports to PowerPoint RTF format.	Graphics are a bit limited; doesn't export to Keynote format.
The Omni Group	OmniGraffle 3.0.1 Professional[C]	★★★★½[D]	$120	X	800/315-6664, www.omnigroup.com	Breathtaking graphics; imports OmniOutliner files; many export formats, including Visio; multipage-document creation; presentation mode; ColorSync support.	No text-based outlining; imports only main items from OmniOutliner; slow.
The Omni Group	OmniOutliner 2.2.2	★★★★[E]	$30	X	800/315-6664, www.omnigroup.com	Easy to use; columns in outlines let you add check boxes, dates, pop-up menus; exports to Keynote; integration with OmniGraffle.	No visual outlining.
Eastgate Systems	Tinderbox 1.2.3	★★★★½[D]	$145	9X	800/562-1638, www.eastgate.com	Feature-rich program; powerful tools; great for collecting and organizing lots of information; excellent Weblog-creation features.	Complex and hard to get a handle on; documentation needs work.

[A] Inspiration also offers the $69 Kidspiration, designed for children in kindergarten through fifth grade. Inspiration 7.5 should be available by the time you read this. [B] See *Reviews*, March 2003. [C] The Omni Group also offers a $70 standard version with limited import and export options. [D] See *Reviews*, September 2003. [E] Version 2.0 reviewed in "Mac Software Bargains," July 2002.

The Weblog Wonder

You may want to set up a blog to stay in touch with friends or provide information for coworkers—but you might not have the time to set things up yourself. You could use an online blog service, but not if you want to have full control of your files. Tinderbox's Weblog wizard and templates can do the trick, helping you create your blog in minutes.

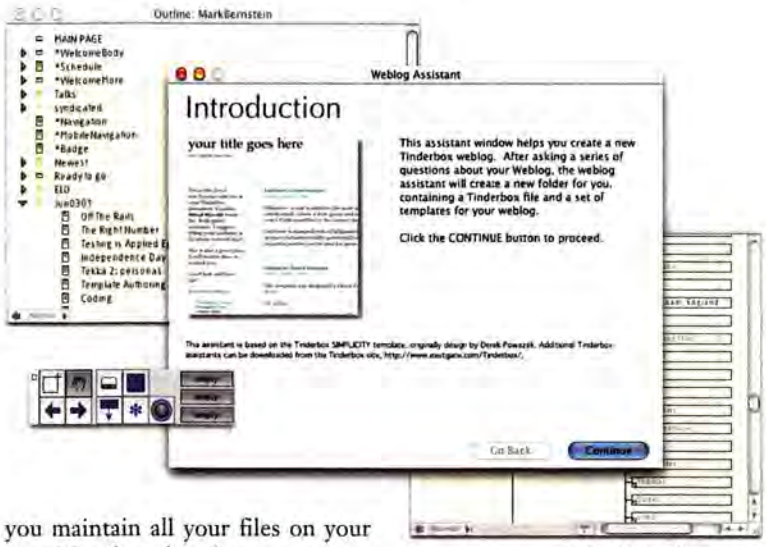
How Tinderbox Works You can use Tinderbox (★★★★½; September 2003) as an outliner or a brainstorming tool, much as you'd use Inspiration, but the program has many other talents. Described by Mark Bernstein, chief scientist at Eastgate Systems, as "a tool for making, analyzing, and sharing notes," Tinderbox uses "spatial hypertext" to organize information and ideas the way people organize their desks and bookshelves.

Getting Creative Tinderbox is really a personal content-management system. You can use it to store and organize snippets of text, ideas, thoughts, or information of any kind—for example, the daily research briefs from your scientific study. When you have an idea, you can search in this database for the data you want and find connections you might not have otherwise noticed. Tinderbox's Find feature is lightning-fast, even when you have a lot of data in a file. (If this type of help is what interests you most, see "Take Note.")

Tinderbox excels as a tool for creating and managing Weblogs. Version 1.3, which should be available by the time you read this, features a Weblog wizard that helps you set up a blog using one of Tinderbox's templates.

After you've answered all the wizard's questions, you start writing your blog entries. Each entry is considered a Tinderbox *note*. Tinderbox monitors the contents of your file for data that meets certain criteria. These criteria determine the final display and whether items go on the main page or in archives. Each time you update your blog, you export the files to HTML and then upload them to your server or to iDisk.

While form-based blogs, such as those that online Weblog servers offer, may be easier to use, Tinderbox has advantages for serious bloggers. It not only lets you maintain all your files on your own Mac, but also gives you a great deal of control over the layout of your blog. You can tweak the templates included with Tinderbox, to make your blog better reflect your personality. Change colors or fonts, add images, change column widths, and more. Check out Ryan Holcomb's proto-Typing blog about creating blogs with Tinderbox (www.fridgedoor.net/prototyping/). He gives detailed instructions for customizing these templates. And see what other people are doing with this program, at the Tinderbox Wiki site (www.eastgate.com/bin/wiki.cgi?TinderboxTasks). (For more information about Weblog services, see "Put Weblogs to Work," July 2003.)



Take Your Ideas Online Outlines and flowcharts aren't all that Tinderbox has up its sleeve. In version 1.3, which should be available by the time you read this, the Weblog Assistant can walk you through the process of getting your thoughts out on the Web.

The Last Word

If you thought outlining programs were nothing more than tools for writing term papers, now you've discovered that you can use them for a lot of different things—from presentations to Weblogs, from FAQ lists to flowcharts and family trees. These tools let you rein in your ideas and organize them in any way you want. □

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Make Your Mac Faster

It's sad. The Power Mac you bought just a few years ago is nearly obsolete. Want to use RT Extreme in Apple's Final Cut Pro 4? You'll need a 500MHz G4 for that. Want to play Unreal Tournament 2003? It requires 700MHz. But you don't have to buy a G5. Why not extend the life of the Mac you've got? If spending $2,000-plus for a new Mac isn't for you, upgrading might be.

You can improve performance by increasing RAM, installing a faster internal hard drive, and trimming your operating system down to the essentials (say good-bye to the Dock's genie effect), but nothing rejuvenates your past-its-prime-before-its-time computer more than a brain transplant. For years, G4 processor upgrades were expensive and not very powerful. Happily, those days are over, and some serious processor upgrades—including dual-processor ones—are now available for a reasonable price. (See our review of 1.4GHz upgrade cards, page 34.)

When you're upgrading your processor, the most difficult obstacle can be mentally preparing to open up your Mac and operate on its insides. But have no fear—the entire process should take less than ten minutes, and the results will be more than worth the effort. We'll show you how to install upgrades from four leading manufactures: Giga Designs' $600 G4/1.467GHz Processor Upgrade (510/919-1988, www.gigadesigns.com); Other World Computing's $590 Mercury Extreme 1.4–1.467GHz (800/275-4576, www.fastermac.com); PowerLogix's $680 PowerForce Dual G4/1GHz Upgrade (505/857-0353, www.powerlogix.com); and Sonnet's $600 Encore/ST G4 1.2GHz (949/587-3500, www.sonnettech.com). These processors are compatible with Power Mac G4 models from 1999's graphite AGP-graphics model to the 2001 Quicksilver models (see "Which Mac?" for help identifying yours). The procedure is similar for almost all upgrades and computers, but there are minor differences that require some special attention. □

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TOOLS



Needle-nose pliers



Phillips screwdriver (preferably magnetized)



Antistatic wrist strap

1 Prepare the Power Mac

Before you can upgrade the processor, you need to make sure that your computer's operating system and firmware can support it.

First, verify that you have OS 9.2.1 or 9.2.2 on your computer. Even if you switched to OS X long ago, you'll need to use OS 9 to see whether your Mac's firmware is up-to-date. To do this, boot into OS 9 and select Apple System Profiler from the Apple menu. Next, click on the triangle next to Production Information. This will reveal the Boot ROM version information. If it's $0004.28f1, your firmware is up-to-date.

If you see something else displayed there Ⓐ, download the proper firmware from http://docs.info.apple.com/article.html?artnum=120068.

Once the update finishes downloading, double-click on the G4 FW Update 4.2.8.smi file and mount the disk image. Double-click on the Power Mac G4 Firmware Updater icon, and then follow the instructions. Choose Shut Down when prompted.



Now locate the *programmer's button* on the front of your computer. This is a tiny button to the right of the reset button. Use a pen point to hold it down while press-

ing the Power Mac's power button to start the machine. Release the programmer's button only after you hear the tone. The firmware update will proceed automatically. Once your computer is up and running again, go back to the System Profiler to make sure that your update was a success. If that's the case, you can now boot into OS X if you want.

2 Remove Your Old Processor

You need to clear away the old before you can bring in the new. In this step, we'll remove the processor card and the all-important *heat sink*, the metal heat conductor that keeps the processor from burning up. If you own a Quicksilver 2001 Power Mac or a Digital Audio Power Mac (some models), you'll also need to remove a cooling-fan assembly. (The other Macs don't have cooling fans.)

Shut down the computer. If it's been on for a while, give it some time to cool before you attempt to remove any parts. If you don't have an antistatic strap, touch the metal of a PCI port to discharge any static electricity that could potentially damage the upgrade or motherboard. Disconnect the power cord and open the Power Mac's case by lifting the latch. This will expose the heat sink and processor card.

Depending on the Mac you have, you may also see a fan at this point. In some Digital Audio Macs, you'll find a fan mounted on the heat sink. To remove it, first locate and disconnect the small wire that connects the fan to a two-pin connector on the processor card. Unlatch the fan assembly from the heat sink and the processor card and remove it.

In the Quicksilver 2001 Power Macs, the cooling fan is mounted next to the heat sink. To remove it, undo the two screws that hold the fan in place (on the back of the computer where the exhaust holes are A). Trace the power wire from the fan back to the two-pin connector on the processor card and disconnect it. Then lift the fan assembly out. Take a pair of needle-nose pliers and unhook the heat-sink clips from the processor card B. Once both clips are undone, lift the heat sink off the processor card. Keep the heat sink with the clips nearby if you're installing the Sonnet card—you'll need it in step 5.



PHOTOGRAPHY BY RICK RIZNER



With the heat sink out of the way, the processor card is now exposed. Use a magnetized Phillips screwdriver (you don't want those small screws to fall into the computer) to undo the screws that hold the processor card in place.

Warning: Don't touch the chip itself with the magnetized screwdriver. You might damage it.

Now you can remove the processor card. Grasp its edges and loosen it by carefully lifting one side slightly; then do the same with the other side. Lift the card straight up and away from the logic board C. Wrap your old processor card in an antistatic bag and store it in a safe place—you might need it if problems arise with your upgrade.



continues

WHICH MAC?

These upgrade cards are compatible with AGP graphics (Sawtooth), Gigabit Ethernet, Digital Audio, and Quicksilver 2001 Macs. Is that information about as useful to you as hearing that they're compatible with silver Power Macs? You can check the Apple Web site to see which Mac you have: read "Power Mac G4: How to Differentiate Between Models" part 1 (http://docs.info.apple.com/article.html?artnum=58418) and part 2 (http://docs.info.apple.com/article.html?artnum=42739).

3 Prepare Your New Processor Card

Depending on the computer you own and the processor you install, you may need to make some adjustments to the upgrade card, such as changing jumper settings and prepping the cooling fan. Some cards use the computer's original heat sink and fan; others have integrated cooling systems. Some use jumper settings to set the processor speed. You might be inclined to set the jumpers for maximum speed, but hold on—your computer may not boot if you do. Also, some jumper settings will clock the processor to a speed the Apple System Profiler won't recognize. The Other World Computing (OWC) upgrade, for example, registers as 0MHz in the System Profiler when set to 1.4GHz. Though the processor upgrade is indeed running at 1.4GHz and works fantastically for most programs, Final Cut Pro 4 won't launch.

If you're installing a Giga Designs or OWC processor upgrade, you'll need to set its jumpers (the small plastic caps that cover a set of metal conductors). How you set them depends on your computer's bus speed. AGP-graphics and Gigabit Ethernet Power Macs have a 100MHz bus, while Digital Audio and Quicksilver 2001 Power Macs have a 133MHz bus. (You can also find this information in the Apple System Profiler.) Armed with your Mac's bus speed, choose the appropriate jumper settings based on the jumper chart that comes with the processors A.



Don't assume that the processor will ship with the jumpers set correctly for your machine. The 1.467GHz Giga Designs upgrade, for example, ships with the jumpers set properly for 100MHz-bus computers. What happens when you put the card as is into a 133MHz-bus machine? The Mac won't boot.

If you have a PowerLogix dual-1GHz upgrade, you won't need to set jumpers, but you will need to temporarily remove the attached cooling fan from its very large heat sink. (Two processors get hotter than one, after all.) Unscrew this fan and set it aside, maintaining the proper orientation. Be careful not to misplace the two nylon spacers; you'll need them in step 6.

The OWC and Giga Designs upgrades have an integrated cooling system that makes installation easier. The Sonnet has neither a cooling fan nor a heat sink, instead using the original pieces you may have set aside in step 2.

All the processor upgrades have the same type of connector. Remove the cap that protects it B, and you're ready to go. (You can put the cap on your old processor card.)



4 Install the Processor Card

Wipe those beads of sweat from your brow—you've reached the most delicate part of the whole operation. It's time to connect the new processor card to the logic board. The trick is knowing when you have a good-quality connection. This step is the same no matter what Mac or processor upgrade you have.

Take the card and align it with the motherboard, using the three screw holes as guides. Firmly press straight down until you feel the card click into place.

Warning: Don't use excessive force, and try not to press on the heat sink if there's one attached to the card—you may damage the underlying G4 chip A.



Using the screws you removed in step 2, secure the processor card. For upgrade cards such as the PowerLogix, the screws are set through the heat sink, so a magnetic screwdriver is again very useful.

If you're installing a Giga Designs or OWC upgrade, this is the final step. You've done it! You're ready to close the computer and fire it up. Even your boot time should be noticeably faster. Skip ahead to step 6 if you're installing a PowerLogix card. If you're installing a Sonnet card, then step 5 is for you.

5 Reinstall the Heat Sink

Sonnet ships its processor upgrades without a heat sink or cooling fan. So you need to reuse your computer's original cooling system with the new card.

Examine your original heat sink to make sure both of the metal connecting clips are in the proper positions. Take the heat sink and guide it over the Sonnet card, placing the heat sink's mounting posts into their respective holes on the card Ⓐ. Make sure it's level across the top of the card.



Take one of the heat sink clips and hook it to the back edge of the Sonnet card Ⓑ. Repeat with the second clip. Then, with the needle-nose pliers, pull out and down on the loose side of the clip so it can hook under the card. Make sure the clip is fastened on both ends. Again, repeat with the second clip.



Warning: It's essential that the heat sink be evenly and firmly secured. If even one of the clips isn't properly secured, the card may overheat and damage the chip.

If your computer didn't originally have an additional cooling fan, you're done. If your computer is a Digital Audio or Quicksilver Mac with a fan—or if you're installing a PowerLogix card—there's one more step.

6 Hook Up the Cooling Fans

You may want to turn your computer into a hot rod, but sometimes hot is *too* hot. The faster your processor is, the more essential cooling fans become—especially if you have a dual-processor card. Without a fan blowing full blast, the PowerLogix dual-1GHz upgrade, for example, would overheat and become damaged.

If you're installing the PowerLogix card in your Mac, place the nylon ring spacers from step 3 on the corner screw holes of the heat sink Ⓐ.



Set the fan unit on top of the spacers and secure it with the two provided screws. Make sure the fan is pointed in the proper direction—so that the air blows down on the card.

Because the PowerLogix fan is quite large, it needs a larger connector than the typical two-pin connector other fans use. Take the fan's four-pin wiring harness and plug it into one of the Mac's extra disk-drive power connectors Ⓑ.

But that's not all in terms of cooling fans. If you've installed a PowerLogix or Sonnet upgrade in a Quicksilver 2001 model, you'll also need to reinstall the original cooling fan (OWC and Giga Designs upgrades don't require this). To do so, hold the two-pin wiring out of the way and slide the fan back into its slot between the heat sink and the back panel. Once it's in place, plug the two-pin connector into the slot on the logic board. Then, with the back of the computer facing you, use the previously removed screws to secure the fan. You've now finished upgrading your Quicksilver 2001 Mac.

If you're putting a Sonnet upgrade in a Digital Audio Mac with an original fan, slide the fan assembly over the heat sink until it snaps into place. Take the two-pin fan wire and plug it into the provided connector on the Sonnet upgrade card.

With the cooling system in place, you can close the case and plug the cord in. Power up your rejuvenated Power Mac, and you should notice the difference immediately. Congratulations!



Supercharge Safari

Since Apple released its Web browser, in January 2003, *safari* has come to mean not only a guided trek through the African plains but also navigating the wilds of the Web in Mac OS X. And Safari 1.0's brushed-metal boundaries hold plenty of uncharted territory. With this map of its best features, you'll find your quarry on the Web faster than ever before.

Multiple Views of the Wildlife

You're at MacCentral.com, scanning the latest headline news, and you want to read several articles. You could click on one link, wait for the page to load, read it, click on the Back button, click on another link, and so on. But that's a lot of unnecessary effort.



ILLUSTRATION BY NEIL LESLIE

You could also open each page in a new window, but all those windows would become difficult to navigate. Safari (as well as many other browsers) offers a better alternative: tabbed browsing. This lets you create, and switch between, multiple notebook-like tabs perched at the top of the browser window. Each tab contains a separate Web page (see "Tab—You're It!").

Create Tabs Enable tabbed browsing in the Tabs pane of Safari's Preferences window. (Select all the options to start; you can tweak them later.) Standard Web browsing won't change, but now you can also view pages in new tabs when you click on links.

You ⌘-click on a link to open the page in a new tab and make that tab active. ⌘-shift-click on a link to open a page in a tab without switching to the new tab. If you have a slow Internet connection, the latter shortcut is a lifesaver: you can keep reading one page while other pages load. Don't worry about memorizing these shortcuts; they're listed in Safari's Tabs preference pane. And when you hold your cursor over a link and press modifier keys (⌘, control, option, ⌘-shift, ⌘-option, or ⌘-shift-option), the status bar at the bottom of the window (View: Status Bar) tells you what will happen.

The ⌘ and ⌘-shift tricks also work when you're typing URLs in the address field. Press ⌘-return to open the URL in a new active tab or ⌘-shift-return to open it in a new background tab.

Pay attention to the Open Links From Applications preference in Safari's General preference pane. If you set this preference to open links in the current window and tabbed browsing is enabled, links you click on in Eudora, iChat, and other applications will open in new background tabs instead of replacing the current page. That's a great way to follow links in e-mail newsletters with minimal interruption while you're reading. You can read all the linked pages when you're done with the story.

Navigate Tabs After you've created a number of tabs, click on each in turn to bring it forward. Want to keep your hands on the keyboard? Hold down ⌘-shift and press the left- or right-arrow keys to cycle through the tabs. If you open more tabs than fit in the window, Safari creates a »-shaped menu at the right side that lets you access the rest of the tabs.

But if you open a lot of tabs, you'll usually want to close each one after reading its contents. When more than one tab is open, the ⌘-W key command closes individual tabs, rather than windows. You can also always click on a tab's X-shaped close button. To close all the tabs but one, control-click on a tab and choose Close Other Tabs from the contextual menu.

When you close a tab, Safari displays the next tab to the right; if you're viewing the rightmost tab, it displays the next tab to the left.

Bookmarking the Territory

Everyone knows how bookmarks work—when you find a cool Web page, you add it to the list of 1,742 other sites you might want to revisit, and then you forget about it. Safari helps tame your unwieldy Bookmarks menu by providing two other places bookmarks can live.

For your frequently accessed pages, there's the Bookmarks Bar (View: Bookmarks Bar) at the top of every window. For seldom-used bookmarks, there's an iTunes-like Bookmarks view (Bookmarks: Show All Bookmarks). Here you can organize links

into playlist-like collections that hold bookmarks or even folders of bookmarks.

Safari automatically imports bookmarks from Internet Explorer, Netscape, and Mozilla the first time you launch it. You'll find all 1,742 of your old bookmarks in a folder labeled Imported IE Favorites, for example. (Some people have had trouble importing Netscape or Mozilla bookmarks. See http://db.tidbits.com/getbits.acgi?tbart=07269 for an article that describes a fix.) You can also copy bookmarks into Safari from any Web browser by dragging them into Safari's Bookmarks view.

Safari keeps the bookmark organization—or lack thereof—you had before. But to help you mend your ways, it offers a useful reorganization trick. If you select a number of bookmarks in the two-pane Bookmarks view and option-click on the New Folder button (shaped like a plus sign) under the list of bookmarks, Safari creates a new, untitled folder *and* moves the selected bookmarks into it.

Of course, dragging from one folder or collection to another works, too, but if you're frustrated because you can't see folders inside collections other than the active one, open another Safari window, view your bookmarks in it, and then drag from one window to another.

Create Bookmarks When you create a bookmark, Safari displays a sheet that lets you name and file it. This helps organize new bookmarks, but some shortcuts can speed the process.

To add the current page to your Bookmarks Bar, drag the icon next to its URL (in the address field) to the desired location. You can even drag a page's icon to an existing folder in the Bookmarks Bar to add the page to that folder. The same tricks work with links on pages. Drag bookmarks off the Bookmarks Bar to delete them.

The Bookmarks menu has a shortcut, too: shift-click on the Bookmarks button (shaped like a plus sign) next to the address field to add the current page to your Bookmarks menu (or press ⌘-shift-D).

Access Bookmarks Visiting a bookmarked site is as easy as clicking on a button in the Bookmarks Bar, choosing an item from the Bookmarks menu, or double-clicking on a bookmark in the two-pane Bookmarks view. Those aren't your only options, though. Pressing ⌘-1 through ⌘-9 is the same as clicking on one of the first nine bookmarks (excluding folders) on the Bookmarks Bar.

Don't forget about tabs when you're accessing bookmarks. The ⌘ and ⌘-shift tabbed-browsing shortcuts also work for opening a bookmark in a new tab. That's ideal for checking a bookmarked page without losing track of the current page.

Synchronize Bookmarks Keeping your bookmark collection synchronized between your iMac and iBook has always been a pain. But with Apple's free iSync 1.1 (www.apple.com/isync/) and a .Mac account, you can synchronize Safari bookmarks to your .Mac account from any Mac that uses your .Mac membership name in the .Mac tab of the Internet preference pane. Just turn on .Mac synchronization in iSync, register your computers, and click on Sync Now. You can even have iSync automatically synchronize your bookmarks every hour.



Tab—You're It! With tabbed browsing enabled via Safari's Tabs preference pane, you can open links in new notebook-like tabs instead of using the Back button or cluttering your screen with multiple windows.

Navigating the Veldt with SnapBack

Safari's headline navigation feature is SnapBack. Like tabbed browsing, it helps you avoid the Back button. Say you're searching Google.com for information about patio shades, and after you've worked your way through one site, you see that the company doesn't ship to your state. Instead of clicking on the Back button four or five times to return to the Google results page, you can click on the little orange SnapBack button in Safari's Google search field at the top of the window (or press ⌘-option-S).

Get Back Fast SnapBack isn't just for Google, though. Safari automatically marks the first page you view on a site and displays another orange SnapBack button in the address field as you click through that site. Click on the SnapBack button (or press ⌘-option-P) to return to the first page.

But what if you want to return to an intermediate page? When you reach a page you want to come back to, choose Mark Page For SnapBack from the History menu (or press ⌘-option-M) to mark it. You can use SnapBack to return to a marked page even if you've subsequently gone on to another site.

But although SnapBack is useful, opening Web sites from a Google results page in new tabs, for instance, is often easier than bouncing back and forth with SnapBack.

Into the Wild

No one wants to spend time stumbling around, lost in the brush. The tips here will help turn even the greenest tourist into an experienced Safari guide. □

TIP

Do you like to visit the same sites every morning? Make a bookmark for each one, and put them all in a folder on your Bookmarks Bar. Then just ⌘-click on the folder's button on your Bookmarks Bar to open *every* site in its own tab (you can also choose Open In Tabs from the pop-up menu that appears when you click on the folder's button). Be careful, though: doing this replaces any current tabs in that window.

Contributing Editor ADAM C. ENGST is the publisher of TidBits, the president of Info-Mac, and the author of the recently released *iPhoto 2 for Mac OS X: Visual QuickStart Guide* (Peachpit Press, 2003).

Fix Those Fonts

A lot has changed in the Mac world since Apple introduced OS X, but one thing hasn't: fonts can still give you headaches. And you may not always know that fonts are at fault. It could take several rounds of troubleshooting before you discover that a corrupted font is making your Mac crash whenever you open a particular document. Other problems, such as inconsistent font styling, are obviously related to type.

We introduced you to OS X's font handling in "End Font Frustration" (*Secrets*, July 2002). Now we'll go beyond the basics to help you not only solve many font problems—from application crashes to missing characters—but also prevent them.

Devious Duplicate Fonts

In OS X, you may have fonts in as many as six font folders. When two or more fonts with the same name exist in two or more of these folders, the duplicates may cause application crashes and styling confusion.



ILLUSTRATION BY BRIAN STAUFFER

Applications can crash when you open a document that uses the duplicate (also called *conflicting*) font. Sometimes an application crashes as soon as you launch it—even before you open a document with the offending font.

Because of OS X's font architecture and way of building font menus, conflicting fonts can also cause style choices to disappear from font menus. Say you're designing a document in QuarkXPress 5.0 running in the Classic environment. You choose a PostScript version of Helvetica from the Classic Fonts folder, which is the only fonts folder XPress 5.0 recognizes. You open another file in Microsoft Word X and again choose the Helvetica font. Because OS X ships with a *dfont* version of Helvetica installed in the System: Library: Fonts folder, Word X sees the OS X version first and displays that version in its font menus. (For an explanation of *dfont* and other terms, see "A Font Glossary.") However, the dfont version has fewer font styles than the PostScript font, so you may see more styles in QuarkXPress's menu than in Word X's.

To locate and eliminate duplicate fonts, follow the advice in "An Ounce of Prevention."

Crashes and Corruption

When OS 9 ran into a conflict between two fonts, the system altered one of the fonts, which sometimes corrupted it. Corrupt fonts are less common in OS X because the system doesn't change fonts in the same way. But that doesn't mean you can rest easy: font corruption still occurs, and it can cause crashes and jaggy font display. There are several ways to tackle this problem.

Delete Corrupted Fonts Font utilities such as Morrison SoftDesign's $70 FontDoctor 5.5 (800/583-2917, www.morrisonsoftdesign.com) and Insider Software's $90 FontAgent Pro (888/263-4799, www.insidersoftware.com) can detect and sometimes repair corruption. If you don't have such a utility, you can try to troubleshoot the problem by removing all but a few fonts from your fonts folders and then slowly adding other fonts back in. If your problem reappears, you may have a corrupt font. Delete that font and copy an uncorrupted version into your font folder.

Delete Corrupted Font-Cache Files Fonts are often cached by the system and certain applications to speed screen display. Even after you delete corrupted fonts, you can still have a corrupt font-cache file. When OS X's font-cache files get corrupted, applications may crash, and your fonts may look jagged or poorly spaced.

Often, all you have to do is delete the system font-cache file, com.apple.FcacheSystemDomain, from the System: Library: Caches folder. Two other files in the same folder (fontTablesAnnex and com.apple.ATSServer.FODB_System) may also cause problems, and you can delete them, too. There's only one complication: these cache files are locked. To learn how to delete them, see "An Ounce of Prevention."

Applications can also cache fonts. For example, Office X caches fonts in a file called Office Font Cache (10), which is in the Users: *your user folder*: Library: Preferences: Microsoft folder. In some cases, deleting this file solves Office X font-corruption problems. Most new Adobe applications use a core technology called CoolType to work with fonts, and CoolType creates its own font-cache files that can become corrupted. At the Finder level, press ⌘-F. Search for all files that begin with *AdobeFnt* and have a *.lst* extension, and delete those.

Always Install or Activate Helvetica and Helvetica Neue Apple's Mail, Address Book, TextEdit, and iCal, as well as the Sound preference pane, require Helvetica or Helvetica Neue; when neither is available, these items refuse to open. OS X 10.1.5 and earlier required that the dfont version of these fonts be available, but as of OS X 10.2, these applications also accept PostScript, TrueType, and OpenType versions of these fonts. To avoid problems, install some version of each font in one of your font folders, or permanently activate the fonts in your font manager.

OS X–to–OS 9 Incompatibilities

Confusion can also reign when you move files containing dfonts from OS X to OS 9. Say you use an OS X dfont in an Adobe InDesign file. You send the completed project—including all the fonts in the document—to a printer who runs only OS 9. Then you get a call from the printer saying the dfonts don't show up in OS 9. Even though the InDesign file is perfectly compatible between OS X and OS 9, the dfonts are not. There are a few ways to avoid this gotcha.

Embed dfonts Your printer can't simply substitute a different version of the same font, as different font metrics or kerning may cause your carefully laid-out text to rewrap. Instead, you should create a PDF file of your document with the dfonts embedded and then send that to the printer. If your printer neither runs OS X nor accepts PDFs, you might want to shop around for another service provider.

Beware Symbol and Zapf Dingbats Even when text rewrapping isn't a concern, the dfont versions of Symbol and Zapf Dingbats can give you grief when you try to share files containing them with someone using OS 9 in a Unicode-aware application such as InDesign. The OS 9 user probably has TrueType or PostScript versions of Symbol and Zapf Dingbats, but those versions are not identical to the dfonts. For example, you may see the dfont Symbol character α, but someone on OS 9 with an older, TrueType Symbol font may open your file and see instead a pink blotch (InDesign's method of indicating a missing character). The Symbol and Zapf Dingbats dfonts use the Unicode standard of font encoding for better international support. Unicode assigns a unique number to each character that isn't dependent on a particular language or platform. Since Symbol and Zapf Dingbats are used in so many languages, their characters have unique numbers. In InDesign, if you hold down ⌘-option when selecting a new font, the pro-

continues

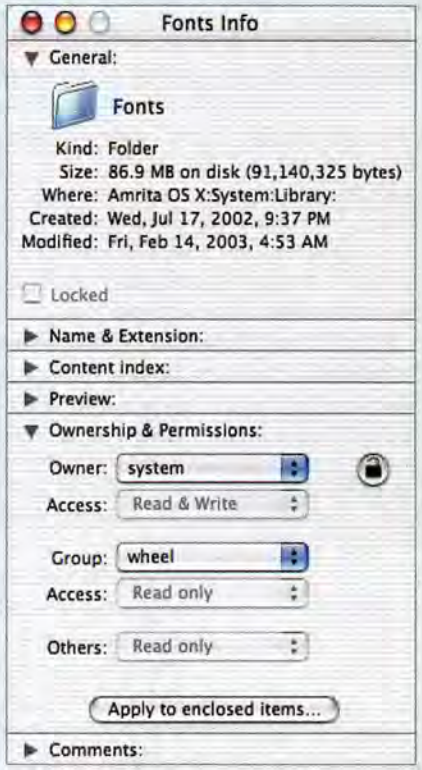
AN OUNCE OF PREVENTION

Solving font problems is gratifying, but preventing them is even better. By learning to find and remove conflicting fonts and to organize your fonts, you'll greatly reduce your font problems.

Remove Conflicting Fonts You can search for and remove duplicate fonts before they cause crashes or other problems. FontAgent Pro, which runs in OS X 10.2 or later, removes duplicate system fonts for you.

If you can't automatically search for and destroy duplicates, you can remove them manually—though it's a tedious process. First, see whether you've installed the PostScript versions of Courier, Helvetica, Times, Symbol, and Zapf Dingbats. If so, remove the TrueType versions of these fonts from the Classic System Folder: Fonts folder. Leave the other fonts alone.

Now open the Users: *your user folder:* Library: Fonts and Library: Fonts folders. (You must be logged in as Administrator to open the latter folder.) Remove fonts with conflicting names and those you don't need. No fonts in this folder are required by the system or by applications.



Lock Box The Info dialog box in OS X 10.2 lets you change the permissions of a locked fonts folder so you can remove conflicting fonts.

Fonts in the System: Library: Fonts folder are usually locked, so you can't easily delete duplicate fonts stored here. However, OS X 10.2 lets you outfox the system and delete the duplicates by changing the folder's permissions (see "Lock Box"). Highlight the folder and choose File: Get Info. Click on the triangle next to the Ownership & Permissions section of the dialog box, and then click on the lock icon. In the Authentication dialog box, enter your Administrator password. In the Owner pop-up menu, select the item labeled with your name followed by "(Me)." Now you can remove fonts from the folder. If you're using PostScript versions of Courier, Helvetica, Symbol, Times, and Zapf Dingbats, remove the dfont versions of these fonts. Don't touch the other fonts, because removing them may cause problems.

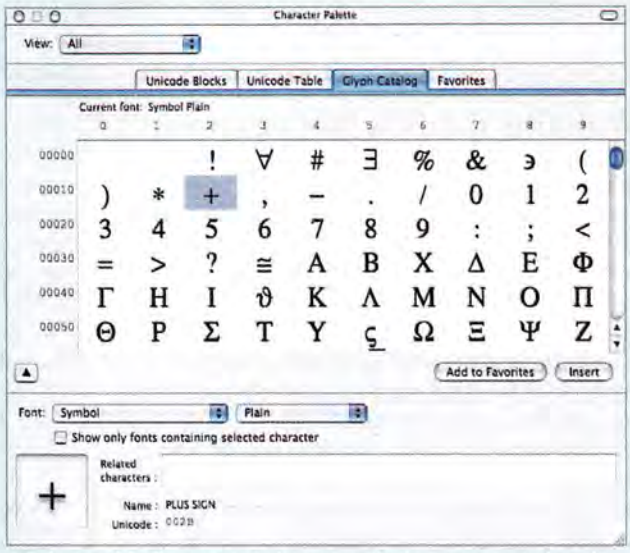
Organize Your Fonts with Folders Font files you don't need may be taking up space and cluttering your font menus. While you're cleaning up duplicate fonts, you should also take time to organize your collection.

A font manager is the best organizer, but if you don't have one, you can use the operating system itself. OS X 10.2 lets you nest folders of fonts so you can arrange your fonts into logical groups, usually by font family. For example, you may put all your Garamond fonts (ITC Garamond, Adobe Garamond, and so on) into a folder you name Garamond. If your font menus become too long, you can temporarily remove the subfolders of fonts you're not using and then easily return them to the proper place when they're needed.

MORE CHARACTERS FOR YOU

OS X 10.2's Character Palette gives you access to all the characters in your fonts (see "A Palette with Character"). Unlike Key Caps, the Character Palette displays the larger character sets of OpenType fonts. When you find a character you want, just double-click on it to insert it into your text. The palette works in all applications written in the Cocoa environment (these applications run only in OS X). Whether you can use the palette to insert a character in other OS X applications depends on whether the developer supports the palette. In Word X, for example, you can insert Symbol and Zapf Dingbats characters but not the extended characters of an OpenType font. You must also make sure that the font in the document matches the font selected in the Character Palette.

Within Cocoa applications, open the Character Palette by pressing ⌘-T. In the resulting Fonts panel, select Show Characters from the Extra pop-up menu. Alternatively, you can add a new menu-bar item for selecting the palette (or switching to a keyboard layout for a different language). In the International pane of System Preferences, click on the Input Menu tab. Select the Character Palette option. When you close the dialog box, you can choose the Character Palette from the new menu.



A Palette with Character As long as you're in a program written in Apple's Cocoa, you can insert any of a font's characters by double-clicking on the character in OS X 10.2's Character Palette.

gram handles the switch the way you'd expect and overrides the Unicode mapping, resulting in the character you want.

The easiest way to solve this problem is to bypass it: stick to PostScript, TrueType, or OpenType versions of Symbol and Zapf Dingbats in both OS 9 and OS X.

OpenType Opportunities

Although PostScript and TrueType are the most familiar font formats, OpenType fonts can offer larger character sets (as many as 65,000, compared with the 224 or so characters in PostScript and TrueType fonts). If a type designer takes advantage of the possibilities, OpenType fonts can include characters from many languages, and typographic refinements such as built-in small caps and ligatures.

OS X supports OpenType fonts in all the OS X font locations, but you can't see the larger character set (beyond the first 224) in Key Caps or in many applications written in the Carbon environment. Furthermore, you can't use keystrokes to insert special characters.

To access a font's special characters in applications written in the Cocoa environment, use OS X 10.2's Character Palette or 10.3's Font Book. Support for the Character Palette in other OS X applications is much more limited (see "More Characters for You"). However, Adobe InDesign 2.0 and Photoshop 7 are also OpenType-aware, though Illustrator 10 is not. In InDesign, use the Glyphs palette to call out all the characters in any font, and use the OpenType menu on the Character palette to call out fractions and ligatures.

Relocate Multiple Masters

Before OpenType, Adobe championed a font format called Multiple Master. Before Jaguar, OS X couldn't recognize Multiple Master fonts and their instances.

Now you can install Multiple Master fonts in any of OS X's font folders. However, an Adobe bug prevents some Multiple Master instances from showing up in Adobe applications. The workaround is to place them in Adobe's private Fonts folder (Library: Application Support: Adobe).

No More Font Fears

Fonts are more complicated in OS X than in OS 9, but with some patience and these troubleshooting tips, you'll soon have them whipped into shape. Once you do, you'll be ready to take advantage of OS X's opportunities, from a new font format to nested font folders. □

A FONT GLOSSARY

OS X's font-handling features involve a number of terms that might not be familiar.

dfont This is the font format used for OS X system fonts; dfonts are TrueType fonts, but they contain all their font information in a single file that works with all operating systems. OS 9 fonts contain a resource fork that Windows and Unix systems can't read.

Multiple Master This font format uses an older technology, introduced by Adobe, for creating variations in font scaling or style. Jaguar is the first version of OS X to support Multiple Master fonts.

OpenType Microsoft and Adobe introduced this font format in 1997. A single OpenType font file works on both Mac and Windows. OpenType supports Unicode, so OpenType fonts can contain a much larger number of characters than PostScript or TrueType fonts. You can install OpenType fonts in any OS X font folder.

Unicode This international standard for character encoding supports more than 65,000 symbols in a font and provides much better support for multiple languages. OS X incorporates Unicode.

STEVE WERNER is a coauthor of *InDesign for QuarkXPress Users* (Peachpit Press, 2003) and has been a trainer, consultant, author, and production manager for more than 20 years. He has taught at Seybold Seminars, Rapid Graphics, and other venues since 1988.

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Academic Aggravation

In this nation's institutions of higher learning, it seems you can't throw a brick without hitting a Mac. This month's questions—the bulk of which were submitted by academics—underscore how prevalent Macs are in our colleges and universities, and that even the erudite can be perplexed by Mac OS X. So open your blue books and keep your eyes on your own paper as we cover font smoothing, picture cropping, HyperCard stack conversion, clock clicking, enhancing CDs, mail forwarding, and stubborn mailing.

Smooth Operations

The way Mac OS X 10.2 draws fonts on screen drives me crazy. No matter what I do, they appear fuzzy. I would like to turn off the "smoothing" that I believe causes this.

Larry Coleman, *Davis, California*

I'm afraid the magnificence of smoothing is in the eye of the beholder—your clear may be my jagged, and what appears fuzzy to you may seem gratifyingly curved to me. Thankfully, you have a few options for limiting the amount of smoothing (or *antialiasing*) your Mac monitor displays.



ILLUSTRATION BY LEO ESPINOSA

To make your letters sharper, journey to the General preference pane. The Font Smoothing Style pop-up menu lets you select a font size at which text smoothing is switched off. Your choices are point sizes 8, 9, 10, and 12. When you choose one of these numbers, smoothing won't be applied to text that size and smaller. You can also select a font-smoothing style—Standard, Light, Medium, or Strong. Sample these settings to see which suits you.

The OS X versions of Microsoft Word and Excel let you opt to switch text smoothing off within these particular applications. (This option is available only after you download the Microsoft Office v. X 10.1.2 update from http://microsoft.com/mac/download/officex/officex_1012.asp.) In Word, you can find this option by selecting Word: Preferences and clicking on the General entry in the Preferences window. In Excel, go to Excel: Preferences and click on View in the Preferences window.

If these two options don't give you the control you desire, download Marcel Bresink's free TinkerTool 2.32 (www.bresink.de/osx/tinkertool2.html). This utility includes an option that lets you switch off font smoothing in OS X's CoreGraphics—with this option selected, text smoothing in almost all Aqua user-interface elements (and in all Cocoa applications, such as TextEdit and Mail) will be turned off.

Finally, if nothing seems to help, you might consider getting a new monitor. Antialiased text on older, low-resolution monitors looks decidedly dowdier than it does on newer, high-resolution monitors.

Crop Flop

One of the features that kept me using a Mac in Mac OS 9 was SimpleText's ability to crop a picture that had been captured with ⌘-shift-3. Because Preview doesn't have this capability, I have to open Graphic Converter to crop a picture. Is there a way around this?

Kendric C. Smith, Ph.D., *Stanford, California*

Try attacking the problem from the other end—crop your shots as you take them. In OS 9 and OS X, you can do this by pressing ⌘-shift-4. When you do, the cursor becomes a crosshair that you can use to select only the portion of the screen you want to capture. If your goal is to capture a window, menu, or the menu bar, you'll find it easy to do in OS X by pressing ⌘-shift-4 and then the spacebar. This key combination causes a camera icon to appear. Place this camera over a window, a menu, or the menu bar, and click the mouse to capture just that object.

For even greater control, I use Ambrosia Software's SnapzPro X 1.0.7 (graphics-only version, $29; graphics and QuickTime-capture version, $49; 585/325-1910, www.ambrosiasw.com). I can not only capture selections and screen objects as

I can with ⌘-shift-4, but also choose the format of the resulting file—something you can't do in OS X, which automatically saves screen captures as PDF files.

Though not as full-featured, eFritz Software's free Snatcher 1.0 (www.efritz.net/software.html) can also capture screens, windows, and selections, and it lets you save your captures in a variety of formats.

Card Tricked

I've resisted moving to OS X because I have a HyperCard Rolodex, with 1,500 entries, that is absolutely essential to my work. I've been told that this Rolodex cannot be transferred to the OS X environment. Is this true?

Paul R. Woudenberg, *Via the Internet*

Not exactly. Although there is no OS X–native version of HyperCard, you can successfully run many HyperCard stacks in OS X's Classic environment.

Should that prove fruitless, you're not completely out of luck if you're familiar with HyperTalk—HyperCard's programming language. Using HyperTalk, you can edit the script underlying the stack. Solutions Etcetera's $179 SuperCard 4 (530/644-7382, www.supercard.us) uses a language called SuperTalk, which the company claims is 80 percent compatible with HyperTalk. Even if the language is only 77 percent compatible, the structure of the two languages is similar enough that a modestly competent HyperTalk programmer should be able to tweak a SuperCard stack in the HyperCard stack's image.

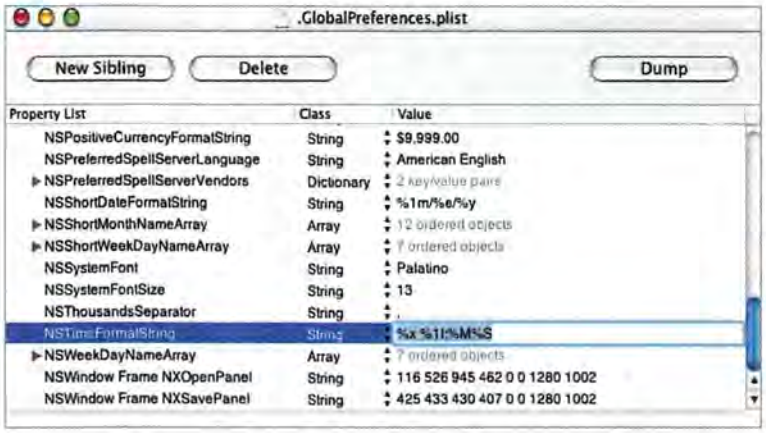
On Today's Menu

OS X's Menu Bar Clock displays a shortened day name; the time, divided by a colon; and then AM or PM. I'd also like to see the date, as I could in OS 9—and without clicking on the clock to see the date in gray in the menu below. How can I do this?

Kathy Kiernan, *Los Angeles, California*

You have two options: The super-secret ain't-I-just-the-hackingest-thing-on-two-feet method and the not nearly so much fun but far easier replacing-Apple's-menu-bar-clock method. Let's tackle the first, first.

In order to modify the way the Menu Bar Clock displays date and time information, you must hack the invisible .GlobalPreferences.plist file. This is easier to do if you've installed OS X's Developer Tools (included with the retail OS X package or available separately from Apple for $20) and made the invisible files on your Mac visible with a tool such as TinkerTool. To reveal the unseen, launch TinkerTool, click on its Finder tab, enable the Show Hidden And System Files option, and click on the Relaunch Finder button. The invisible files on your Mac are now visible.



Make a Date Use the Property List Editor application to hack a date into Apple's Menu Bar Clock.

Select Go To Folder from the Finder's Go menu, type ~/Library/Preferences, and click on Go to open the Preferences folder inside your user folder's Library folder. Click once on the .GlobalPreferences.plist file and press ⌘-D to duplicate it so you have a backup copy. Move the backup copy to a safe place so you can restore your hacked file later if you care to. Double-click on the .GlobalPreferences.plist file to open it in Property List Editor (an application that's part of Developers Tools).

Click on the triangle next to the root entry in the resulting .GlobalPreferences.plist window, and scroll down to the NSTimeFormatString entry. In the Value column to the right, you'll see %1I:%M%S—this is the code that tells the Menu Bar Clock to display the time (see "Make a Date"). Change this entry to %x %1I:%M%S (in other words, precede the current entry with %x followed by a space). Press return to enter the change, and then choose Save from the File menu.

Launch the Date & Time system preference, and in the Menu Bar Clock tab, deselect the Show The Day Of The Week option. Now turn the Show The Date And Time In The Menu Bar option off and then on to reset the Menu Bar Clock. The Menu Bar Clock will display the date and time in this format: abbreviated day, abbreviated month, date, year, hour, minute, and AM or PM ("Thu Oct 19 2003 11:12 AM," for example).

If this sounds like way too much bother, get Christopher Wolf's free wClock (www.wolfware.com) or Script Software's fuller-featured, $20

continues

TIP OF THE MONTH

It's not possible to properly copy text from multi-columned PDF files using Acrobat Reader's Text tool. When you attempt to select more than one line, the tool selects text in all columns.

To select text within a column, choose the Text tool and option-drag over the text you want to copy. This operation selects only the desired column or text and not the full range of columns.

Regrettably, the text you copy will include extra carriage returns. To remove them, use a utility such as Selznick Scientific Software's (www.selznick.com) SmartWrap the Clipboard X (a component of the company's $18 SmartWrap package, which removes carriage returns from text copied to the Clipboard).

Gabriel Dorado, *Cordoba, Spain*

UNSOLICITED ADVICE

If your music collection is made up primarily of popular music, iTunes offers you umpteen ways to sort songs by genre. To see what I mean, select a song, press ⌘-I, click on the Info tab in the resulting window, and click and hold on the Genre pop-up menu. Here you'll find listings for such styles as Alternative, Blues/R&B, Hip Hop/Rap, Pop, Rock, and Country.

Yet if your music library largely includes "art" music, you have a single choice: Classical. If you want to create playlists composed of Italian opera, baroque violin concertos, romantic song cycles, or 20th century serial music, this one Classical entry in the Genre pop-up menu does little good.

It's for this reason that I've added to the Genre entries in my copy of iTunes. You can, too. Just select a piece of music that represents a particular classical style—an aria from an Italian opera, for example. Then open its information window, and type an appropriate genre in the Genre field. When you click on OK to dismiss the window, you'll notice that the entry for that file in the Genre column changes to reflect the style you just created. Repeat this procedure with any music file that represents a style you wish to add to the Genre menu.

To avoid assigning a new style to each piece of music individually, shift- or ⌘-click on entries in the iTunes window that you'd like to assign a particular genre to, press ⌘-I to bring up the Multiple Song Information window, and choose one of your new Genre entries. When you do, that genre will be applied to each selected piece of music.

iClock (www.scriptsoftware.com). Each utility can display both the date and time in the menu bar.

A Disc with Something Extra

My friend and I made a music video with iMovie to accompany my friend's music. We'd like to burn a CD that has both the music and video on it, as is done with CD-Extra discs you find in the store. How do you create such a disc?
Alexander Knight, *Seattle, Washington*

What you're describing is a multisession disc that follows the Blue Book (or Enhanced CD) specification. These discs—known as CD-Extra or CD-Plus discs—contain a mix of audio and data, with the audio portion stored in the first session and data stored in the second session. On the Mac, the tool you use to create these sessions is Roxio's Toast 5 Titanium ($100; $90, download; 866/280-7694, www.roxio.com). Here's how:

Click on the Audio button in the Toast window, and add the audio files you want. Insert a blank CD-R disc and click on the Record button. In the resulting Record window, click on Write Session and wait while the audio files burn to the CD.

When the session has been burned, click and hold on the Other button and select ISO-9660 from the menu. Drag the video (and any other data files you want to put on the disc) into the Toast window. Click on the Record button; in the Record window, click on Write Disc. Wait for Toast to burn your disc.

When you insert the finished disc into a standard audio CD player, it will play the audio tracks and ignore the portion of the disc that contains your movie. When you shove the disc into a computer, it will mount as two volumes—an audio CD with the audio tracks and a data CD with the movie.

Forward March

My son receives a lot of e-mail from his newsgroup, and I forward it to him at work. With Eudora under OS 9, I could forward all the messages easily and individually. OS X's Mail lumps all the messages into a single message, and my son complains that messages formatted this way are hard to read. Is there some way to easily and quickly forward a number of messages individually?
Jim Ward, *Berkeley, California*

Here's how to forward this mail automatically: Select Preferences from the Mail menu and click on the Rules button in the window that appears. Click on the Add Rule button. In the resulting window, select a criterion to identify messages from the newsgroup—the list's From Address, for example—and enter that information in the If portion of the window. In the Perform The Following Actions area, select Forward Message from the pop-up menu, and enter your son's e-mail address in the To field.

Mail Flawed

While setting up OS X's Mail, I created several false e-mail account addresses. When I attempt to send messages, Mail invariably picks one of these useless accounts, even though I've deleted them from the Accounts portion of Mail's preferences. How can I permanently remove these accounts?
Jascha Kessler, *Los Angeles, California*

If you have the right tool, it's possible to eliminate these effluvia. Thankfully, Apple includes just the right tool in the Library folder at the root level of your OS X volume.

Select Go To Folder from the Finder's Go menu, and type /Library/Scripts/Mail Scripts. Double-click on the Manage SMTP Servers.scpt file within the Mail Scripts window that appears. When the script opens in Script Editor, click on the Run button. A window will appear that states, "Choose one or more SMTP servers to delete. None of these servers are being used by your POP or IMAP accounts." Select the accounts you want to vaporize, and click on OK. If all goes as planned, the nuisance accounts will be gone. □

Contributing Editor CHRISTOPHER BREEN is the author of *Secrets of the iPod*, third edition (Peachpit Press, 2003).

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ANDY IHNATKO



Monsters of Metal

I'VE BEEN LOOKING AT MAC OS X 10.3—OR PANTHER—for a good two weeks now. And I'm looking at it the way I suddenly freeze in the middle of turning a page in a book and look *really* hard at the gas grill on my deck—because I've just heard a faint *tick* that might just possibly mean my grill will explode at any second, taking half of my house along with it.

Granted, metal windows in the Finder are not quite on the scale of a faulty regulator filling the backyard with an immense cloud of flammable vapor, but they do worry me. Now, I have nothing against metal windows. They provide admirable defense against hurricane-thrown yard debris, and overall they're a perfect fit for iTunes and the other iLife apps. And that's my point: For years now, Apple has been careful about where it uses a metal interface. Metal means lifestyle. A program for turning a folder full of photos into a DVD slide show? Metal. NetInfo Manager, a tool so technical and complicated that Apple had to get its name from a random-buzzword generator? No metal.

So does a metal attitude suit the Finder? Is Apple saying that basic file, directory, and network management is the same kind of casual and carefree operation as assembling a playlist of the greatest hits from Goldie Hawn movie soundtracks? Is Apple willing to *make* those tasks casual and carefree? If it isn't, then Apple has broken the Finder's interface.

Metal in the Finder is like an aloha shirt at a Russian state funeral. It's a fine item in and of itself, but in an improper context, it sends confusing messages.

A Good Thief

I'm glad to see that Apple has stolen an idea from Windows XP, though: the ability to quickly and simply switch from one user to another. Microsoft's OS designers have been sneaking in and out of the Mac OS warehouse for well over a decade now, and it was inevitable that one of them would accidentally drop a trade secret on the way out the door. (Apple being Apple, though, it couldn't resist dropping a boatload of OpenGL on this good, simple idea. As is only proper, switching from one user to another is like watching a game-show host reveal that in addition to a refrigerator, the contestant has also won a set of luggage and a trip to Hawaii.)

My worry about the Finder's metal interface makes me wish that Apple had stolen another Microsoft idea: the public demo of technology the company has absolutely no intention of making.

Ever heard of Windows Powered Smart Displays? Well, neither has most of the country. The basic idea is a handheld color LCD with an integrated touch-screen and its own battery and wireless connection. It mirrors the screen of your computer, and when you tap buttons or move the pointer on the display, your actions are sent to that machine.

A Smart Display costs as much as a Windows laptop and does far less. It's getting a lot of derisive laughter, but Microsoft is taking notes. The second version will get chuckles. The third version will get customers.

Obviously, Microsoft does this stuff because it can afford to send up a lot of trial balloons. (And by demonstrating a research prototype of a Bluetooth-enabled soup spoon, it can make sure that no one else gets in the game of spread-spectrum utensils.) Apple has really done it only once, and out of grave necessity: the first public beta of Mac OS X. In part, Mac OS X 10.0 gained so much momentum so quickly because all the beta's ill-considered novelties were weeded out before they could scare away the rank and file.

> Apple, if we promise not to point and giggle, will you show us what you're working on?

Lead Trial Balloon

Is the metal Finder to Panther what the orphaned Apple Menu was to the OS X public beta? *That* one went over real well. Biblical commandments were being shattered in every Mac forum as beta users plainly (and very aerobically) explained that they liked OS 9's Apple Menu exactly the way it was, thank you.

Granted, you can go too far with previewing stuff. Come up with a brilliant idea and mate it with confidence and singular vision, and you wind up with *Raiders of the Lost Ark*. Market-test and focus-group it to death, and you get *Lara Croft: Tomb Raider*. Would we have wound up with one of the hottest Unix operating systems on the planet if it had been put to a vote?

Still, there's something to be said for giving users a chance to hate something and spew venom in Linda Blair quantities while they can still make a difference. Apple is telling me that I just have to take this new Finder and *like* it. And just like every other time I've been punched in the face, it's left me tasting metal. □

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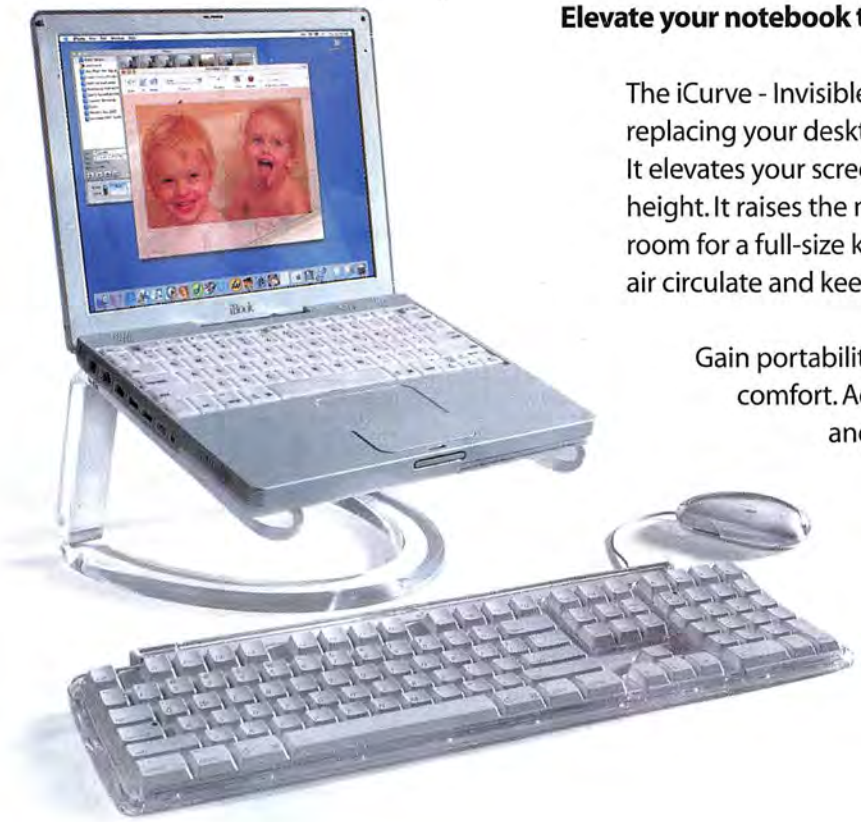
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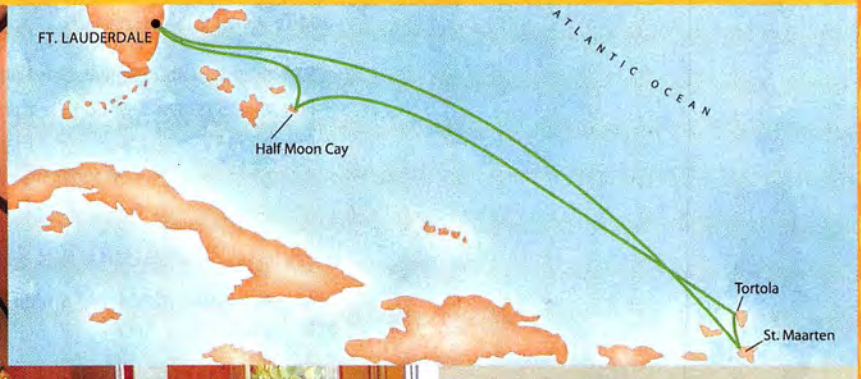
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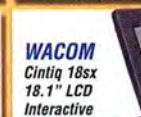
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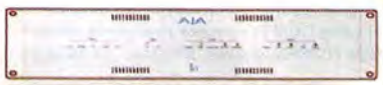
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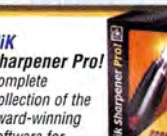


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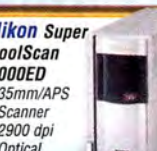


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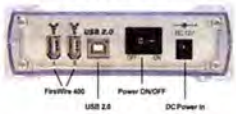




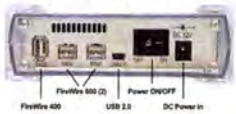
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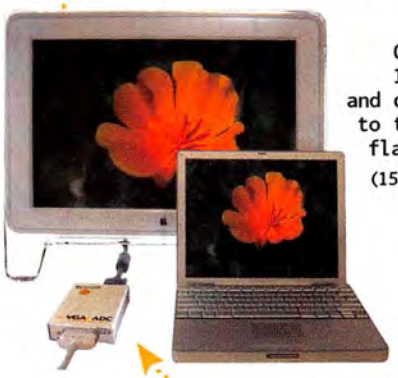
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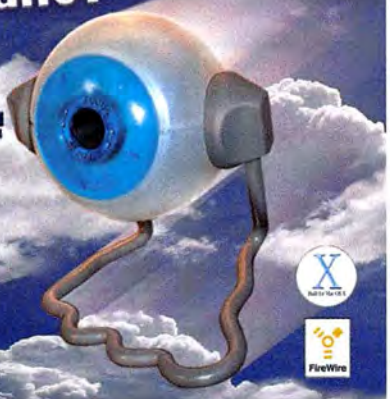
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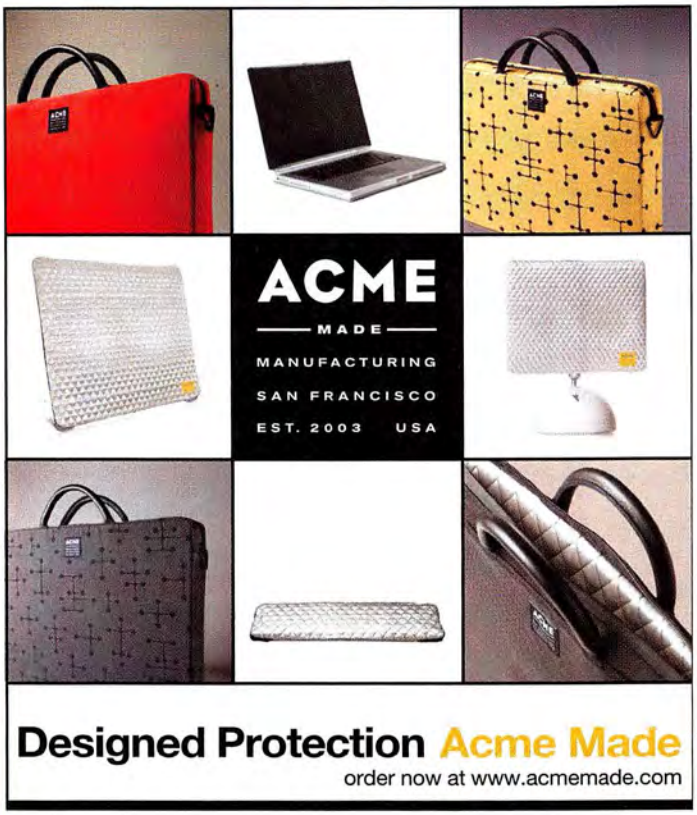
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continued from page 120

ties as I was, you'll appreciate Unsanity's $10 **Menu Master** (●●●●) for OS X, which lets you add or change shortcuts, or remove them altogether. And doing so couldn't be easier—just highlight the appropriate menu item in the desired application and then press a keyboard shortcut to assign it to that menu item (or press the delete key to remove an existing keyboard shortcut).

Menu Master's preference-pane interface lists all assigned menu shortcuts, and it lets you remove them directly (or restore the original shortcut). You can even exclude specific applications from Menu Master's control (useful if a particular application turns out to be incompatible—Unsanity lists a few known incompatible programs for you).

Menu Master doesn't work for all menus—the Application and Menu Extra menus, for example—but it does work very well in most applications I've tried. If you haven't taken to using commands such as ⌘-shift-N to create a new folder in OS X, Menu Master may be for you.

Palling Around

One thing OS X's Address Book lacks is the ability to quickly give you a person's contact information—you have to launch Address Book and then find the contact. The $6 **BuddyPop** (●●●●), from Tynsoe.org, provides a convenient way to access information from within any application—kind of like a LaunchBar (●●●●½; "Mac Software Bargains," July 2002) for contacts. Press a keyboard combination, and up pops a translucent window. Type in a few letters of a contact's name, and BuddyPop tells you how many contacts in your Address Book match the letters you've typed; if it's more than one, type a few more letters until you've narrowed it down. Then press return to get a floating, translucent window listing the contact's details. If you get more than one match, BuddyPop tells you so, and you can cycle through the results with the left- and right-arrow keys.



Pop-Up Book Tynsoe.org's BuddyPop gives you quick access to contact details from within any application.

When viewing the information for a contact, you can click on an e-mail address to open a new message to that person; click on a URL to open it in your browser; or select a phone number or address, control-click on it, and select Copy from the contextual menu to copy it to the clipboard. The developer's to-do list includes many more cool features, so BuddyPop will only get better in the future.

The Treasure Chest

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Tynsoe.org	BuddyPop 1.0.1	●●●●	about $6**	X	BuddyPop@tynsoe.org, http://projects.tynsoe.org/en/
Unsanity	Menu Master 1.0.1	●●●●	$10	X	unsanity@unsanity.com, www.unsanity.com

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Get Your Share

If you turn various sharing services (such as Personal File Sharing, Windows File Sharing, or FTP Access) on and off frequently, you'll like **SharingMenu** (●●●●½). It offers a convenient universal menu that lets you quickly enable or disable each service (as long as you have administrative access). What's more, it even lets you toggle Guest Access for Personal File Sharing, an option not normally accessible. It may save you only a few mouse clicks and a few seconds at a time, but those seconds can add up if you use sharing services often.

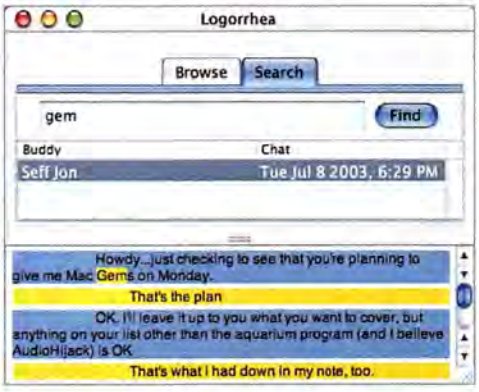


Sharing Switch SharingMenu lets you quickly enable and disable sharing services from the menu bar.

Quick Communication Queries

Apple's iChat has been very popular since its release, and the beta version of iChat AV has quickly added to that popularity (even among people using it only for text chatting). One of iChat's helpful features is the ability to save text chats for future reference (in the Documents: iChats folder in your user folder). Unfortunately, these logs aren't very useful for *finding* something typed during a chat. When I tried to review the logs of a recent Chat, I had to dig through a bunch of files called name #2, name #3, name #4, and so on.

Enter Spiny Software's free **Logorrhea** (●●●●). Despite its unpleasant-sounding name, it's actually a useful (and pleasant) product. It lets you access iChat log files in two ways. Via the Browse tab, you can browse chats by user name and the chat's date and time. Once you select a chat, you can read the exchange, with each user's messages color-coded. But the Search tab is the real find. Type in a word or phrase, and Logorrhea finds all chats that contain that phrase. Click on a chat, and it will even highlight the search term for you in the chat. □



WeChat Logorrhea can help you quickly find text in iChat logs.

DAN FRAKES is the author of *Mac OS X Power Tools* (Sybex, 2003), and he can be tracked down at www.danfrakes.com. Send your thoughts on this column, or on things you'd like to see in future columns, to macgems@macworld.com.

- QuickImage CM
- PDF U
- Menu Master
- BuddyPop
- SharingMenu
- Logorrhea

Simple Shortcuts

AS MAC OS X BECOMES MORE WIDELY USED, MORE INEXPENsive software for the platform—freeware, shareware, and even inexpensive commercial products—is released on a daily basis. Some programs provide extensive functionality; others do simple things that save you time. Take Pixture Studio's free **QuickImage CM** (♦♦♦♦♢). We all receive pictures via e-mail or download them from the Web, and we end up with mysterious images sitting on our hard drives. But what's the easiest way to quickly view them? QuickImage CM provides a useful addition to the Finder's contextual menus—control-click on an image or group of images and select View, and your images appear in a convenient window that floats over other applications.

You can resize the viewing window and magnify images, and if you've selected multiple images, you can use the arrow keys (or click anywhere on the current image) to cycle through them. The window's menus give you information (size, format, resolution, bit depth, and so forth) about the current image, and they let you rename it, print it, or move it directly to the Trash.

But QuickImage's editing capabilities really make this utility shine. Via the viewing window, you can flip, rotate, trim, and scale images, and you can even apply one or more of a variety of filters, such as sepia and contrast. When you're done, you can copy the image to the clipboard or convert it to one of 11 graphics formats. The QuickImage contextual menu lets you quickly add or remove thumbnails and convert images on-the-fly. QuickImage saves me quite a bit of time, and it's just plain more convenient (and powerful) than applications such as Preview.

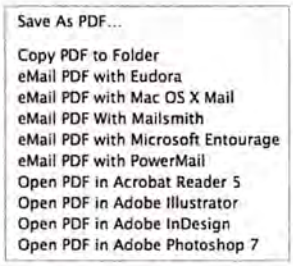


Fast Photo QuickImage CM lets you quickly view and work with images without opening an application.

Printing Perks

In OS X 10.2.4, Apple added a unique feature to Print dialog boxes: PDF Workflow. When you create a folder called PDF Services inside your user folder's Library folder (or in the primary Library folder if you want all users to have the feature) and add applications, folders, aliases, or even scripts to it, the Save As PDF button in Print dialog boxes turns into a menu. You use this menu to export the current document to PDF and then process it (save to a folder, process with an application or script, and so on) in one step.

Although it's easy to create this folder yourself and add folder aliases or application aliases to it, the free **PDF U** (♦♦♦♢), from If Then Software, makes the process even easier. Place PDF U in your Applications folder, launch it, and watch it create the PDF Services folder for you. (It even asks whether you want the folder created for all users or just for your own user account.) OK, not a big deal, right? What makes PDF U so useful is that it also installs a number of scripts for saving PDF files to folders, e-mailing them with various e-mail clients, and opening them with various PDF-compatible applications. If you've already created the PDF Services folder, there's also an option to install only the included scripts. Even if you don't need all these scripts, they demonstrate some of the cool things you can do with PDF Workflow.



Print Processing PDF U provides a number of useful scripts for creating and processing PDF files from within Print dialog boxes.

Menu Mastery

In OS 9 and earlier, utilities such as Now Software's Now Menus and Power On Software's Action Menus let you create your own keyboard shortcuts to menu items—in the Finder, applications, and even the Apple Menu. If you were as big a fan of these utili-

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